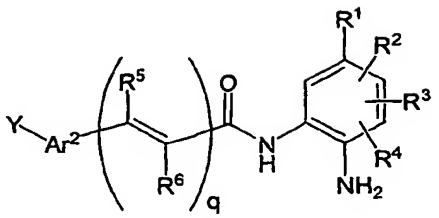
We claim:

1. A histone deacetylase inhibitor of formula (1):



(1)

or a pharmaceutically acceptable salt thereof, wherein

Ar^2 is a saturated or mono- or poly- unsaturated C_5-Ci_4-mono- or fused poly- cyclic hydrocarbyl, optionally containing one, two, three, or four annular heteroatoms per ring optionally substituted with one or more groups selected from C_r C_7-alkyl, hydroxy, C_r C_7-alkoxy, halo, and amino, provided that an annular O or S is not adjacent to another annular O or S;

R^5 and R^6 are independently selected from the group consisting of hydrogen, C_r C_7-alkyl, aryl, and aralkyl;

R^2, R^3 and R^4 are independently selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_r C_7-akyl, haloalkyl, C_r C_7-alkenyl, C_1-C_7 alkynyl, C_r C_7-acyl, CrC $_7$-alkyl-aryloxy, Ci-C_7-alkyl-arylsulfanyl, Ci-C_7-alkyl-arylsulfinyl, C_r C_7-alkyl-arylsulfonyl, Ci-Cralkyl-arylaminosulfonyl, Ci-C_7-alkyl-arylamine, CrC $_7$-alkynyl-C(O)-amine, C_1-C_7 alkenyl-C(O)-amine, Ci-C_7-alkynyl-R^9, C_r C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-Cralkyl or C_r C_7-alkoxy;

q is O or 1;

R^1 is a mono-, bi-, or tri-cyclic aryl or heteroaryl, each of which is optionally substituted;

Y is any pharmaceutically acceptable chemical moiety consisting of 1 to 50 atoms; and

provided that

when R^1 is /V-imidazolyl, R^2-R^4 are H, q is 0, and Ar^2 is pyridine, Y is not Cl; and

when R^1 is p-aminophenyl, R^2-R^4 are H, q is 0, and Ar^2 is phenyl, Y is not H.

2. The compound according to claim 1 wherein R^1 is phenyl, naphthyl, anthracenyl, or fluorenyl.

3. The compound according to claim 1 wherein R^1 is furanyl or thienyl.

4. The compound according to claim 2 wherein R^2, R^3, and R^4 are all -H.

5. The compound according to claim 3 wherein R^2, R^3, and R^4 are all -H.

6. The compound according to claim 1 wherein Y is Cy^2-X^1- and

Cy^2 is hydrogen, cycloalkyl, aryl, heteroaryl, or heterocyclyl, each of which is optionally substituted and each of which is optionally fused to one or two aryl or heteroaryl rings, or to one or two saturated or partially unsaturated cycloalkyl or heterocyclic rings, and wherein any of the aforementioned rings are optionally substituted; and

X^1 is selected from the group consisting of a covalent bond, M^1-lA W^1, and L^2-M^2-L^2 wherein

L^2, at each occurrence, is independently selected from the group consisting of a chemical bond, C_0-C_4-hydrocarbyl, C_0-C_4-hydrocarbyl-(NH)-C $_0$-C_4-hydrocarbyl, C_0-C_4-hydrocarbyl-(S)-C $_0$-C_4-hydrocarbyl, and C_0-C_4-hydrocarbyl-(0)-C $_0$-C_4-hydrocarbyl, provided that L^2 is not a chemical bond when X^1 is MMAM ^{1};

M^1, at each occurrence, is independently selected from the group consisting of -0-, -N(R^7)-, -S-, -S(O)-, $S(O)_2$-, -$S(O)_2N(R^7)$-, -N(R^7J-$S(O)_2$-, -C(O)-, -C(O)-NH-, -NH-C(O)-, -NH-C(O)-O-and -0-C(O)-NH-, -NH-C(O)-NH-,

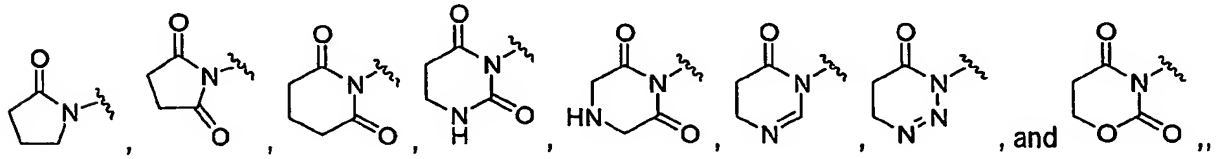
R^7 is selected from the group consisting of hydrogen, C_r C_6-hydrocarbyl, aryl, aralkyl, acyl, C_0-C_6-hydrocarbyl-heterocyclyl, and Co-Ce-hydrocarbyl-heteroaryl, wherein the hydrocarbyl moieties are optionally substituted with -OH, -NH_2, -N(H)CH_3, -N(CH_3)$_2$, or halo; and

M^2 is selected from the group consisting of M^1, heteroarylene, and heterocyclylene, either of which rings optionally is substituted.

7. The compound according to claim 6, wherein X^1 is selected from the group consisting of a -N(Z)-Co-C_7-alkyl-, -O-Co-Cy-alkyl-, -C(H)=CH-C_0-C_7-alkyl-, -S-C_0-C_7-alkyl-, or -C_r C_7-alkyl-, wherein Z is -H or -CrC_7-alkyl- optionally substituted with -OH, -NH_2, or halo.

8. The compound according to claim 6, wherein X^1 is selected from methylene, aminomethyl, and thiomethyl.

9. The compound according to claim 6, wherein Cy^2 is selected from



each of which optionally is substituted and optionally is fused to one or more aryl rings.

10. The compound according to claim 6 wherein Cy^2 is aryl or heteroaryi, each optionally substituted.

11. The compound according to claim 6 wherein Cy^2 is phenyl, pyrimidinyl, benzoimidazolyl or benzothiazolyl, each of which is optionally substituted.

12. The compound according to claim 11 wherein Cy^2 has from one and three substituents independently selected from the group consisting of Ci-Cralkoxy, halo, di-C_1-C_7-alkylamino-C_1-C_7-alkoxy and heteroaryi.

13. The compound according to claim 12 wherein the substituents are selected from methoxy, fluoro, chloro, pyridinyl and dimethylamino-ethoxy.

14. The compound according to claim 13 wherein Cy^2 is phenyl substituted with one to three CH_3O-.

15. The compound according to claim 6 wherein Y is (V-L^4VV-L^3-, and

L^3 is a direct bond, -d-Ce-hydrocarbyl, -(C_1-C3-hydrocarbyl)$_{ml}$-X'-(C_1-C_3- hydrocarbyl)$_{m2}$, -NH-(C_0-C_3- hydrocarbyl), (Ci-C_3- hydrocarbyO-NH-, or -NH-(Ci-C_3- hydrocarbyl)-NH-;

m l and m 2 are independently O or 1;

X' is -N(R^{21})-, -C(O)N(R^{21})-, N(R^{21}JC(O)-, -0-, or -S-;

R^{21} is -H, V"-(Ci-C_6-hydrocarbyl)$_a$;

L^4 is (Ci-C_6-hydrocarbyl)$_a$-IVI-(Ci-C6-hydrocarbyl)b;

a and b are independently O or 1;

M is -NH-, -NHC(O)-, -C(O)NH-, -C(O)-, -SO_2-, -$NHSO_2$-, or -SO_2NH-

V, V , and V" are independently selected from cycloalkyl, heterocyclyl, aryl, and heteroaryi;

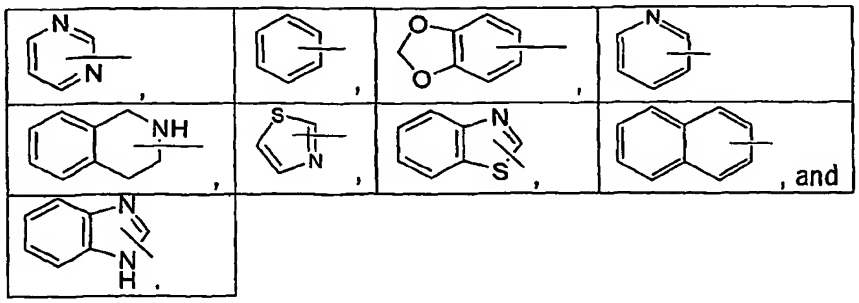
t is O or 1.

16. The compound according to claim 15 wherein Y is V-L^3 and

L^3 is -NH-CH- or -CH-NH-;

V is phenyl optionally substituted with from 1 to 3 moieties independently selected from halo, hydroxy, Ci-C_6-hydrocarbyl, CrC$_6$-hydrocarbyl-oxy or -thio (particularly methoxy or methylthio), wherein each of the hydrocarbyl moieties are optionally substituted with one or more moieties independently selected from halo, nitroso, amino, sulfonamido, and cyano.

17. The compound according to claim 16 wherein V is an optionally substituted ring moiety selected from:



18. The compound according to claim 6 wherein

Cy^2 is cycloalkyl, aryl, heteroaryl, or heterocyclyl, each of which optionally is substituted, and each of which optionally is fused to one or more aryl or heteroaryl rings, or to one or more saturated or partially unsaturated cycloalkyl or heterocyclic rings, each of which rings optionally is substituted, provided that when Cy^2 is a cyclic moiety having -C(O)-, -C(S)-, -S(O)-, or $-S(O)_2-$ in the ring, then Cy^2 is not additionally substituted with a group comprising an aryl or heteroaryl ring; and

X^1 is selected from the group consisting of a chemical bond, L^3, W^1L^3, LAW^1, W^1-LAW^1, and LAW^1-L^3, wherein

W^1, at each occurrence, is S, O, or $N(R^9)$, where R^9 is selected from the group consisting of hydrogen, alkyl, aryl, and aralkyl; and

L^3 is C_1-C_4 alkylene, C_2-C_4 alkenylene, *or* C_2-C_4 alkynylene.

19. The compound according to claim 6 wherein Y is selected from:

a) Ai-LrBr, wherein Ai is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein Li is $-(CH_2)o-iNH(CH_2)_o-r$, -NHC(O)-, or $-NHCH_2-$; and wherein Bi is phenyl or a covalent bond;

b) A_2-L_2-B_2-, wherein A_2 is $CH_3(C=CH_2)$-, optionally substituted cycloalkyl, optionally substituted alkyl, or optionally substituted aryl; wherein L_2 is -CsC-; and wherein B_2 is a covalent bond;

c) A_3-L_3-B_3-, wherein A_3 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_3 is a covalent bond; and wherein B_3 is -CH_2NH-;

d) A_4-L_4-B_4-, wherein A_4 is an optionally substituted aryl; wherein L_4 is -NHCH $_2$-; and wherein B_4 is a thienyl group;

e) A_5-L_5-B_5-, wherein A_5 is an optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_5 is a covalent bond; and wherein B_5 is -SCH_2-;

f) morpholinyl-CH $_2$-

g) optionally substituted aryl;

h) A_6-L_6-B_6-, wherein A_6 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_6 is a covalent bond; and wherein B_6 is -$NHCH_2$-;

i) A_7-LrB $_7$-, wherein A_7 is an optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_7 is a covalent bond; and wherein B_7 is -CH $_2$-;

j) optionally substituted heteroaryl or optionally substituted heterocyclyl;

k) A_8-L_8-B_8-, wherein A_8 is optionally substituted phenyl; wherein L_8 is a covalent bond; and wherein B_8 is -0-;

l) A9-L9-B9-, wherein A_9 is an optionally substituted aryl; wherein L_9 is a covalent bond; and wherein B_9 is a furan group;

m) AiO-L_1O-BiO-, wherein Ai_0 is an optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein Li_0 is -CH(CH $_2$$CH_3$)-; and wherein Bi_0 is -NHCH $_2$-;

n) A_{11}-L_{11}-Bu-, wherein A_{11} is an optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{11} is a covalent bond; and wherein B_{11} is -OCH $_2$-;

0) A_{12}-L_{12}-Bi_2-, wherein A_{12} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{12} is-NHC(O)-; and wherein B_{12} is -N(optionally substituted aryl)CH $_2$-;

p) A_{13}-L_{13}-B_{13}-, wherein A_{13} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{13} is a covalent bond; and wherein B_{13} is -NHC(O)-;

q) Ai_4-Lu-B $_{14}$-, wherein A_{14} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{14} is-NHC(0)(optionally substituted heteroaryl); and wherein B_{14} is -S-S-;

r) F_3CC(O)NH-;

s) Ai_5-I_i_5-B_{15}-, wherein A_{15} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein U s is-(CH_2)o-iNH(optionally substituted heteroaryl)-; and wherein B_{15} is -NHCH $_2$-;

t) A_{16}-L_{16}-B_{16}-, wherein Ai_6 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein Li_6 is a covalent bond; and wherein Bi_6 is -N(optionally substituted alkyl)CH_2-; and

u) A_{17}-L_{17}-B_{17}-, wherein A_{17} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{17} is a covalent bond; and wherein Bi_7 is -(optionally substituted aryl-$CH_2)_2$-N-.

20. The compound according to claim 6 wherein Y is selected from:

a) D_1-E_1-F_1-, wherein Di is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein Ei is -CH $_2$- or a covalent bond; and wherein Fi is a covalent bond;

b) D_2-E_2-F_2-, wherein D_2 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_2 is -NH(CH $_2)_{0-2}$-; and wherein F_2 is a covalent bond;

c) D3-E3-F3-, wherein D_3 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_3 is -(CH $_2)_0$NH-; and wherein F_3 is a covalent bond;

d) D_4-E_4-F_4-, wherein D_4 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_4 is -S(CH $_2)_{0-2}$-; and wherein F_4 is a covalent bond;

e) D_5-E_5-F_5-, wherein D_5 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_5 is -(CH $_2)_{0-2}$S-; and wherein F_5 is a covalent bond; and

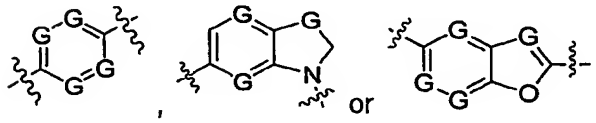
f) D_6-E_6-F_5-, wherein D_6 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_6 is -NH(CH $_2)_{0-2}$NH-; and wherein F_6 is a covalent bond.

21. The compound according to claim 2 wherein R^2 to R^4 are independently hydrogen, $-NH_2$, nitro, furanyl, chloro, fluoro, butyl, trifluoromethyl, bromo, thienyl, phenyl, -CHCHC(O)-NH_2, -C=CCH_2R^9 wherein R^9 is hydrogen, C_r C_7-alkyl, hydroxy, amino, or d-C $_7$-alkoxy.

22. The compound according to claim 3 wherein R^2 to R^4 are independently hydrogen, $-NH_2$, nitro, furanyl, chloro, fluoro, butyl, trifluoromethyl, bromo, thienyl, phenyl, -CHCHC(O)-NH_2, -C≡CCH_2R^9 wherein R^9 is hydrogen, CrC $_7$-alkyl, hydroxy, amino, or Ci-Cy-alkoxy.

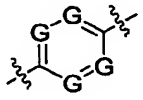
23. The compound according to claim 6 wherein q is O and X^1 is independently selected from the group consisting of a -NH-CH_2-, -S-CH_2- and -CH_2-.

24. The compound according to claim 1 wherein Ar^2 has the formula



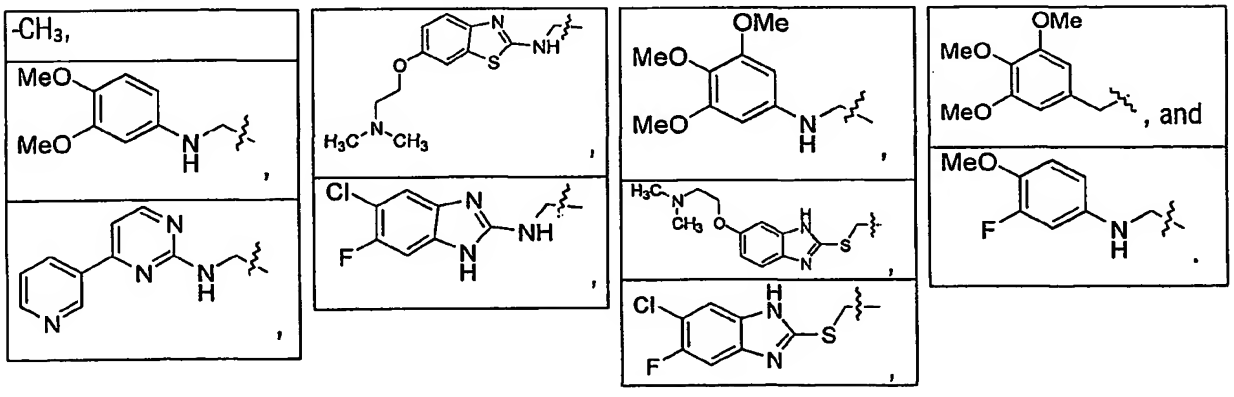
and wherein G, at each occurrence, is independently N or C, and C is optionally substituted.

25. The compound according to claim 24 wherein Ar^2 has the formula

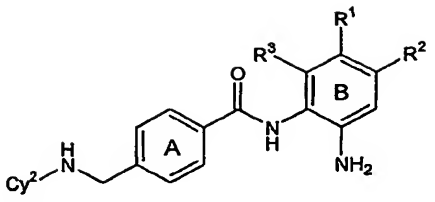


26. The compound according to claim 24 wherein Ar^2 is selected from the group consisting of phenylene, benzofuranylene and indolinylene.

27. The compound according to claim 6 wherein the moiety formed by Cy^2-X^1 is selected from:



28. The compound of claim 6 of formula (2):



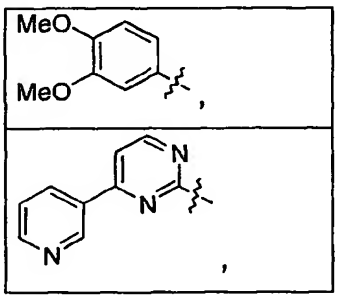
(2)

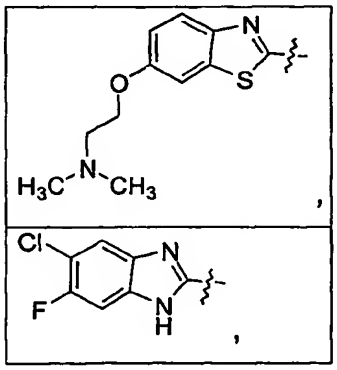
or a pharmaceutically acceptable salt thereof, wherein

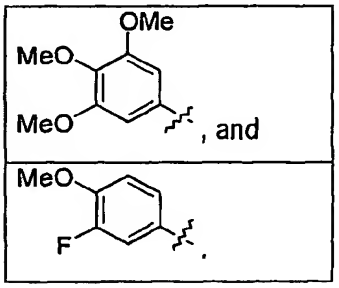
R^2 and R^3 are independently selected from the group consisting of hydrogen, trifluoromethyl, butyl, -(CH_2)S-OH, chloro, fluoro, amino, phenyl, thienyl, furanyl, -CHCCHC(O)NH_2, -CsCCH_2-OH, -C=CCH_2-OCH_3; and

the A ring is optionally further substituted with from 1 to 3 substituents independently selected from methyl, hydroxy, methoxy, halo, and amino.

29. The compound according to claim 28 wherein Cy^2 is selected from:







30. The compound according to claim 28 wherein the A ring is not further substituted.

31. The compound according to claim 28 wherein R^2 and R^3 are -H.

32. A compound according to claim 1 selected from:

/V-[2-amino-5-(2-thienyl)phenyl]-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide;

/V-[2-amino-5-(2-thienyl)phenyl]-4-{[(4-pyridin-3-ylpyrimidin-2-yl)amino]methyl}benzamide;

N-[2-amino-5-(2-thienyl)phenyl]-4-[({6-[2-(dimethylamino)ethoxy]-l/-l-benzimidazol-2-yl}thio)methyl]benzamide;

/V-[2-amino-5-(2-thienyl)phenyl]-4-{[(5-chloro-6-fluoro-IH-benzimidazol-2-yl)amino]methyl}benzamide;

N-[2"amino-5-(2-thienyl)phenyl]-5-{[(3,4,5-trimethoxyphenyl)amino]methyl}-l-benzofuran-2-carboxamide;

I\H2-amino-5-(2-thienyl)phenylM-{3,4,5-trimethoxybenzyl)indoline-6-carboxamide;

trans-/V-[2-amino-5-(2-thienyl)phenyl]-3-(4-{[(3,4,5-trimethoxyphenyl)amino]methyl}phenyl)acrylamide;

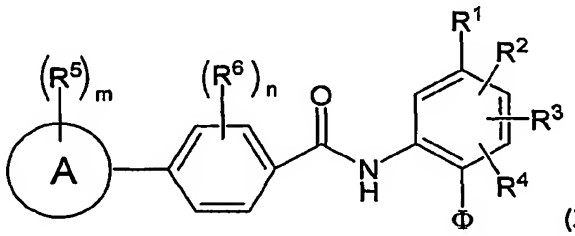
N-[2-amino-5-(2-thienyl)phenyl]-4-{[(3-fluoro-4-methoxyphenyl)amino]methyl}benzamide;

N-[2-amino-5-(2-thienyl)phenyl]-4-{[(6-chloro-5-fluoro-l/-/-benzimidazol-2-yl)thio]methyl}benzamide;

and a pharmaceutically acceptable salt of any one or more of the foregoing.

33. A compound according to claim 1 for use in inhibting histone deacetylase.
34. A compound according to calim 1 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.
35. The compound of claim 34, wherein said treatment is effected by inhibiting histone deacetylase,
36. The compound of calim 34, wherein said cell proliferative disease is a neoplastic cell proliferative disease.
37. The compound of claim 34, wherein said cell proliferative disease is cancer.
38. The compound of claim 37, wherein said cancer is a solid tumor cancer.
39. The compound of claim 37, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.
40. A pharmaceutical composition comprising a compound according to claim 1 and a pharmaceutically acceptable carrier.
41. The pharmaceutical composition of claim 40 further comprising a nucleic acid level inhibitor of histone deacetylase.
42. The pharmaceutical composition of claim 41, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.
43. The pharmaceutical composition of claim 42, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No: l $_1$ SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

44. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 1.
45. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 40.
46. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 41.
47. The method of claim 45, wherein said cell proliferative disease is a neoplastic cell proliferative disease.
48. The method of claim 45, wherein said cell proliferative disease is cancer.
49. The method of claim 48, wherein said cancer is a solid tumor cancer.
50. The method of claim 49, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.
51. The method of claim 46, wherein said cell proliferative disease is a neoplastic cell proliferative disease.
52. The method of claim 46, wherein said cell proliferative disease is cancer.
53. The method of claim 52, wherein said cancer is a solid tumor cancer.
54. The method of claim 53, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.
55. A compound of the formula



(3)

or a pharmaceutically acceptable salt or *in vivo* hydrolyzable ester or amide thereof, wherein:

Φ is -NH_2 or -OH;

ring *A* is a heterocyclyl, wherein if said heterocyclyl contains an -NH- moiety that nitrogen is optionally substituted by a group selected from K;

R^5 is a substituent on carbon and is selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, siilphamoyl, C_{i-6}-alkyl, C_{2-6}-alkenyl, C_2-6-alkynyl, CWalkoxy, C_{1-6}-alkanoyl, $Ci._5$-alkanoyloxy, /V-(C_{1-5}-alkyl)amino, N,N-(C_{1-6}-alkyl)$_2$amino, $Ci-_5$-alkanoylamino, N-(C_{1-5}-alkyl)carbamoyl, N,N-(C^-alkyl)$_2$carbamoyl, C_{1-6}-alkylS(O)$_a$ wherein a is Oto 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alkyl)sulphamoyl, N,N-($Ci._{6}$-alkyl)$_2$sulphamoyl, aryl, aryloxy, arylCi$_{-6}$-alkyl, heterocyclic group, (heterocyclic group)C_{1-6}-alkyl, or a group (B-E-); wherein R^5, including group (B-E-), is optionally substituted on carbon by one or more W; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by J;

W is halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, $C_2$6-alkenyl, C_{2-6}-alkynyl, $Ci._6$-alkoxy, $Ci._6$-alkanoyl, $Ci._6$-alkanoyloxy, /V-($Ci._5$-alkyl)amino, A/,N-(C_{1-6}-alkyl)$_2$amino, $Ci._6$-alkanoylamino, N-(C_{1-6}-alkyl)carbamoyl, N,N-(C_{1-5}-alkyl)$_2$carbamoyl, $Ci._5$-alkylS(O)$_a$ wherein a is Oto 2, $Ci._6$-alkoxycarbonyl, N-($Ci._6$-alkyl)sulphamoyl, *N,N*-(C_{1-6}-alkyl)$_2$sulphamoyl, or a group (B'-E^1); wherein W, including group (B'-E'-), is optionally substituted on carbon by one or more Y;

Y and Z are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, $Ci._6$-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl , Ci-s-alkoxy, C_{1-6}-alkanoyl, $Ci._6$-alkanoyloxy, N-($Ci._6$-alkyl)amino, *N,NiCi*-$_6$-alkyl)$_2$amino, $Ci._6$-alkanoylamino, N-($Ci._6$-alkyl)carbamoyl, N,N-($Ci-_6$-alkyl)$_2$carbamoyl, C_{1-6}-alkylS(O)$_a$ wherein a is Oto 2, Cw-alkoxycarbonyl, *N*-(C_{1-6}-alkyl)sulphamoyl or N_1N-($Ci._6$-alkyl) $_2$sulphamoyl;

G, J and K are independently selected from C_{1-8}-alkyl, C_{1-8}-alkenyl, C_{1-8}-alkanoyl, $Ci._8$-alkylsulphonyl, C_{1-8}-alkoxycarbonyl, carbamoyl, *N*-(C_{1-8}-alky1)carbamoyl, *N,NiCi**-alkyOcarbamoyl, benzyloxycarbonyl, benzoyl, phenylsulphonyl, aryl, arylCi$_{-6}$-alkyl or (heterocyclic group)Ci.$_6$-alkyl; wherein G, J, and K are optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by hydrogen or Ci_6alkyl;

Q is halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_2-6-alkenyl, C_{2-6}-alkynyl, Ci.$_6$-alkoxy, d-e-alkanoyl, C_{1-6}-alkanoyloxy, A/-(C_{1-6}-alkyl)amino, /V,/V-(C_{1-6}-alkcyl)$_2$amino, Ci.$_5$-alkanoylamino, N-(C_{1-6}-alkyDcarbamoyl, /V,/V-(Ci$_6$-alkyl)$_2$carbamoyl, Ci-e-alkylSfO$_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, C_{1-6}-alkoxycarbonylamino, /V-(C_{1-6}-alkyl)sulphamoyl, /V,/V-(C_{1-6}-alkyl)$_2$sulphamoyl, aryl, aryloxy, aryl **Ci.$_6$-alkyl**, arylC^-alkoxy, heterocyclic group, (heterocyclic group)C $_{1-s}$-alkyl, (heterocyclic group)Ci. $_6$-alkoxy, or a group (B"-E"-); wherein Q, including group (B"-E"-), is optionally substituted on carbon by one or more Z;

B, B' and B" are independently selected from Ci.$_6$-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{3-8}-cycloalkyl, Ca-s-cycloalkylCi-e-alkyl, aryl, **arylCi.$_6$-alkyl**, heterocyclic group, (heterocyclic group)C $_{1-6}$-alkyl, phenyl or phenylCi.$_6$-alkyl; wherein B, B' and B" is optionally substituted on carbon by one or more D; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E, E' and E" are independently selected from -N(R^a)-, -0-, -C(O)O-, -OC(O)-, -C(O)-, -N(RT(O)-, -N(R^a)C(O)N(R^b)-, -N(RT(O)O-, -OC(O)N(R^a)-, -C(O)N(R^a)-, S(O)$_r$, -SO_2N(R^3)-, -N(R^3JSO_2- wherein R^3 and R^b are independently selected from hydrogen or Ci$_6$-alkyl optionally substituted by one or more F and r is 0-2;

D and F are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, Ci.$_6$-alkyl, C_{2-6}-alkenyl, C_{2-5}-alkynyl, Ci.$_6$-alkoxy, Ci$_6$-alkanoyl, Ci-e-alkanoyloxy, N-td-e-alkyDamino, /V-AHCi-$_5$-alkyl)$_2$amino, d-e-alkanoylamino, N-(Ci.$_s$-alkyl)carbamoyl, N,N-(C_{1-6}-alkyl)$_2$carbamoyl, Ci.$_6$-alkylS(O)$_a$ wherein a is Oto 2, d-e-alkoxycarbonyl, MCi-e-alkyUsulphamoyl or N,N-(C_{1-6}-alkyl) $_2$sulphamoyl;

m is 0, 1, 2, 3 or 4; wherein the values of R^5 may be the same or different;

R^6 is halo;

n is 0, 1 or 2; wherein the values of R^6 are the same or different; and

R^1, R^2, R^3, and R^4 are as defined in claim 1.

56. The compound of claim 55 wherein:

Ring A is a heterocyclyl;

R^5 is halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, Ci$_6$-a!kyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, Ci.$_6$-alkoxy, Ci.$_6$-

alkanoyl, Ci-s-alkanoyloxy, /V-(Ci$_{-6}$-alkyl)amino, /V,/V-(Ci$_{6}$-alkyl)$_2$amino, Ci.$_6$-alkanoylamino, N-(Ci.6-alkyl)carbamoyl, /V,/V-(Ci$_6$-alkyl)$_2$carbamoyl, C$_{1-6}$-alkylS(O)$_a$ wherein a is O to 2, C$_{1-6}$-alkoxycarbonyl, /V-(Ci$_{-6}$-alkyl)sulphamoyl, /V,A/-(C$_{1-6}$-alkyl)$_2$sulphamoyl or a group (B-E-); wherein, B is selected from Ci-s-alkyl, C$_{2-6}$-alkenyl, C$_{2-6}$-alkynyl, C$_3$^-cycioalkyl, C$_{3-8}$-cycloalkylCi-5-alkyl, phenyl, heterocyclyl, phenyWalkyl or heterocyclylC$_{1-6}$-alkyl; wherein B is optionally substituted on carbon by one or more D; and wherein if said heterocyclyl contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E is -N(R^a)-, -0-, -C(O)O-, -OC(O)-, -C(O)-, -N(RT(O)-, -C(O)N(R^a)-, -S(0)$_r$, -SO$_2$N(R^a)-, -N(R^a)SO$_2$- wherein R^3 is hydrogen or C$_{1-6}$-alkyl optionally substituted by one or more D and r is 0-2;

D is independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C$_{1-6}$-alkyl, C$_{2-6}$-alkenyl, C$_{2-6}$-alkynyl, Ci.$_6$-alkoxy, C$_{1-6}$-alkanoyl, Ci-e-alkanoyloxy, /VMCi-e-alkyDamino, /V,ZV-(C$_1$.$_6$-alkyl)$_2$amino, C$_1$.e-alkanoylamino, /V-(Ci$_{-6}$-alkyl)carbamoyl, /V,/V-(Ci$_5$-alkyl)$_2$carbamoyl, C$_1$.6-alkylS(0)$_a$ wherein a is O to 2, Ci.$_6$-alkoxycarbonyl, /V-(Ci$_{-6}$-alkyl)sulphamoyl and *N,N-[Ci$_S$*-alkyl)$_2$sulphamoyl;

G is selected from C$_{14}$-alkyl, C$_{14}$-alkanoyl, C$_{1-4}$-alkylsulphonyl, C^-alkoxycarbonyl, carbamoyl, A/-(Ci$_4$-alkyl)carbamoyl, A/,/V-(C$_{1-4}$-alkyl)carbamoyl, benzyl, benzyloxycarbonyl, benzoyl and phenylsulphonyl;

m is 0, 1, 2, 3 or 4; wherein the values of R^5 are the same or different;

R^5 is halo; and

n is 0, 1 or 2; wherein the values of R^6 are the same or different.

57. The compound of claim 56 wherein:

Ring A is a pyridyl, quinolyl, indolyl, pyrimidinyl, morpholinyl, piperidinyl, piperazinyl, pyradazinyl, pyrazinyl, thiazolyl, thienyl, thienopyrimidinyl, thienopyridinyl, purinyl, triazinyl, oxazolyl, pyrazolyl, or furanyl; wherein if Ring A contains an -NH- moiety that nitrogen is optionally substituted by a group selected from K;

R^5 is a substituent on carbon and is selected from halo, amino, Ci$_{-6}$-alkyl, Ci-e-alkoxy, AZ-(Ci$_{-6}$-alkyDamino, aryl, aryloxy, arylC$_{1-6}$-alkyl, heterocyclic group, (heterocyclic group)C$_{1-6}$-alkyl, or a group (B-E-); wherein R^5, including group (B-E-), is optionally substituted on carbon by

one or more W; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by J;

W is hydroxy, mercapto, Ci$_{-6}$-alkyl, C^-alkoxy, *N,N-[C$_{1\cdot6}$-akyl)$_2$amino* or a group (B'-E'-); wherein W, including group (B'-E'-), is optionally substituted on carbon by one or more Y;

Y and Z are independently selected from halo, nitro, cyano, hydroxy, C^-alkoxy, /V,/V-(Ci$_6$-alkyl)$_2$amino or Ci.$_5$-alkanoylamino;

G, J and K are independently selected from C^-alkyl, C$_2$-8-alkenyl, C^-alkanoyl, aryi, arylCW alkyl or (heterocyclic group)Ci-$_6$-alkyl; wherein G, J and K are optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by hydrogen or Ci.$_6$-alkyl;

Q is cyano, hydroxy, Ci.$_6$-alkoxy, Ci.$_6$-alkanoyloxy, Ci.$_6$-alkoxycarbonyl, Ci.$_5$-alkoxycarbonylamino, aryl, aryloxy or a group (B"-E"-); wherein Q, including group (B"-E"-), is optionally substituted on carbon by one or more Z;

B, B' and B" are independently selected from (Walkyl, C$_2$-6-alkenyl, C$_2$^-alkynyl, C$_{3\cdot8}$-cycloalkyl, C$_{3\cdot8}$-cycloalkylC$_{1\cdot6}$-alkyl, aryl, arylCi$_{.6}$-alkyl, heterocyclic group, (heterocyclic group)Ci.6-alkyl, phenyl or phenylC^-alkyl; wherein B, B^{1}and B" are optionally substituted on carbon by one or more D; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E, E' and E" are independently selected from -N(R^a)-, -0-, -C(O)O-, -OC(O)-, -C(O)-, -N(RT(O)-, -N(R^a)C(O)N(R^a)-, .N(RT(O)O -, -OC(O)N(R^a)-, -C(O)N(R^a)-, -S(0)$_r$, -SO$_2$N(R^3)-, -N(R^a)S0$_2$- wherein R^a and R^b are independently selected from hydrogen or Ci.$_6$-alkyl optionally substituted by one or more F and r is 0-2;

D and F are independently selected from halo, Ci.$_6$-alkoxy or /V,N-(Ci$_6$-alkyl)$_2$amino;

m is 0, 1, 2, 3 or 4; wherein the values of R^5 are the same or different;

R^6 is fluoro or chlbro; and

n is 0, 1 or 2, wherein the values of R^5 are the same or different;

58. The compound of claim 57 wherein:

Ring A is pyridin-4-yl, pyridin-3-yl, pyriclin-2-yl, quinolin-8-yl, pyrimidin-6-yl, pyrimidin-5-yl, pyrimidin-4-yl, morpholin-4-yl, piperidin-4-yl, piperidin-3-yl, piperdin-2-yl, piperazin-4-yl, pyridazin-5-yl, pyrazin-6-yl, thiazol-2-yl, thien-2-yl, thieno[3,2d]pyrimidinyl,

thieno[3,2b]pyrimidinyl. thieno[3,2b]pyridinyl, purin-6-yl or triazin-6-yl; wherein if Ring A contains an -NH- moiety that nitrogen is optionally substituted by a group selected from K;

R^5 is a substituent on carbon and is selected from fluoro, chloro, amino, methyl, ethyl, propyl, methoxy, N-methylamino, /V-ethylamino, /V-propylamino, N-butylamino, phenyl, naphthylethyl, piperazin-1-yl, piperidin-1-yl, piperidin-4-yl, 2-(thiomethyl)-pyrimidin-4-yl, tetrahydrofuran-2-ylmethyl, tetrahydropyran-2-ylmethyl, I,2,5-thiadiazol-3-ylethyl, piperidin-1-ylmethyl, pyridin-2-ylmethyl, or a group (B-B-); wherein R^5, including group (B-B-), is optionally substituted on carbon by one or more W; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by J;

W is hydroxy, methyl, ethyl, ethoxy, IV,/V-(diethyl)amino, /V,/V-(dibutyl)amino, or a group (B'-E'-); wherein W, including group (B'-E'-), is optionally substituted on carbon by one or more Y;

Y and Z are independently selected from fluoro, chloro, bromo, nitro, cyano, hydroxy, methoxy, /V,/V-(dimethyl)amino or methylcarbonylamino;

G, J and K are independently selected from methyl, ethyl, propyl, pentyl, 2-methylbutyl, butyl, acetyl, benzyl, 3-(pyrrol-l-yl)propyl or pyrrolidin-2-one-(5S)-methyl; wherein G, J and K are optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by hydrogen or methyl;

Q is cyano, hydroxy, methoxy, ethoxy, methylcarbonyloxy, methoxycarbonyl, *t*-butoxycarbonylamino, phenyl or a group (B"-E"-); wherein Q, including group (B"-E"-), is optionally substituted on carbon by one or more Z;

B, B' and B" are independently selected from methyl, ethyl, propyl, cyclohexyl, phenyl, benzyl, 1,2,3,4-tetrahydroquinolinyl, 3-morpholinopropyl, 2-morpholinoethyl, 2-pyrrolidin-l-ylethyl, 3-morpholinopropyl, 3-(4-methylpiperazin-l-yl)propyl, 2-piperidin-l-ylethyl, 3-piperidin-l-ylpropyl, pyridin-3-ylmethyl or imidazol-1-ylpropyl; wherein B, B' and B" are optionally substituted on carbon by one or more D; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E, E' and E" are independently selected from $-N(R^a)-$, -0-, -C(O)-, -NHC(O)-, -N(RT(O)O-; wherein R^a is hydrogen or methyl optionally substituted by one or more F;

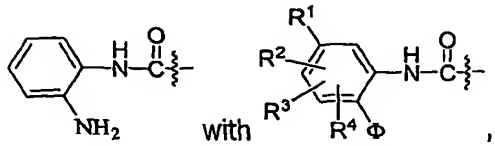
D and F are independently selected from fluoro, methoxy or ethoxy;

m is 0, 1, or 2; wherein the values of R^5 are the same or different;

R^6 is fluoro; and

n is O or 1.

59. The compound of claim 55 that is selected from one of the compounds from Tables 1-8 and 13 of WO 03/087057 modified by replacing the terminal moiety:



, wherein Φ, R^1, R^2, R^3, and R^4 are as defined in claim 1.

60. A compound according to claim 55 for use in inhibting histone deacetylase.

61. A compound according to calim 55 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

62. The compound of claim 61, wherein said treatment is effected by inhibiting histone deacetylase.

63. The compound of calim 61, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

64. The compound of claim 61, wherein said cell proliferative disease is cancer.

65. The compound of claim 64, wherein said cancer is a solid tumor cancer.

66. The compound of claim 64, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

67. A pharmaceutical composition comprising a compound according to claim 55 and a pharmaceutically acceptable carrier.

68. The pharmaceutical composition of claim 67 further comprising a nucleic acid level inhibitor of histone deacetylase.

69. The pharmaceutical composition of claim 68, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

70. The pharmaceutical composition of claim 69, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No: I $_1$ SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:I I , SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

71. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 55.

72. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 67.

73. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 68.

74. The method of claim 72, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

75. The method of claim 72, wherein said cell proliferative disease is cancer.

76. The method of claim 75, wherein said cancer is a solid tumor cancer.

77. The method of claim 76, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

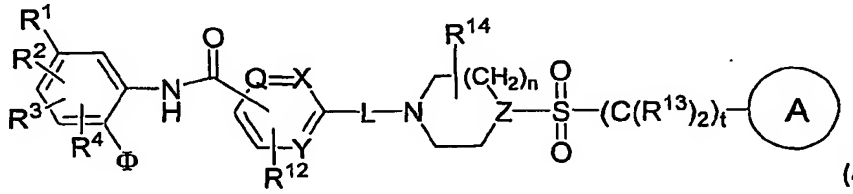
78. The method of claim 73, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

79. The method of claim 73, wherein said cell proliferative disease is cancer.

80. The method of claim 77, wherein said cancer is a solid tumor cancer.

81. The method of claim 78, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

82. A compound of the formula:



(4)

the N-oxide forms, the pharmaceutically acceptable addition salts or the stereo-chemically isomeric forms thereof, wherein

Φ is $-NH_2$ or -OH;

n is 0,1, 2 or 3, wherein when n is 0 then a direct bond is intended;

t is 0, 1, 2, 3 or 4, wherein when t is 0 then a direct bond is intended;

Q, X, Y, and Z are independently N or CH;

R^1 is H or as defined in claim 1;

R^2, R^3, and R^4 are as defined in claim 1;

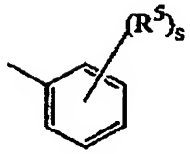
R^{12} is hydrogen, halo, hydroxy, amino, nitro, Ci_{-6}-alkyl, Ci-6-alkyloxy, trifluoromethyl, di(Ci_{-6}-alkyOamino, hydroxyamino and naphthalenylsulfonylpyrazinyl;

-L- is a direct bond or a bivalent radical selected from Ci_{-6}-alkanediyl, amino, carbonyl and aminocarbonyl;

each R^{13} is a hydrogen atom, wherein when t is 2, 3, or 4 one of the R^{13} is optionally aryl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC^-alkyl, CWalkyl, Ci_{-6}-alkyloxy,arylC $_{1-6}$-alkyl $_F$ aminocarbonyl, hydroxycarbonyl, aminoCi-$_6$-alkyl, aminocarbonylCw-alkyl, hydroxycarbonylCi-6-alkyl, hydroxyaminocarbonyl, Ci_{-6}-alkyloxycarbo nyl, Ci-s-alkylaminoCi. 6-alkyl or di(C_{1-6}-alkyl)aminoC $_{1-6}$-alkyl;

Ring A is selected from



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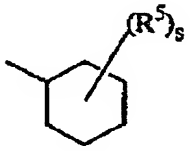

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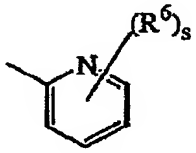

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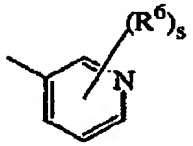

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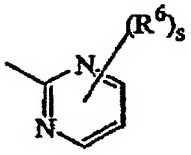

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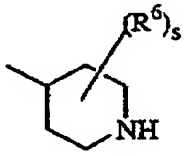

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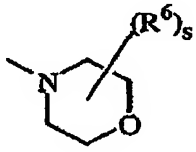

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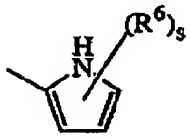

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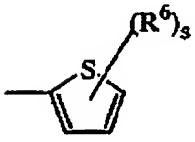

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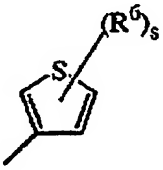

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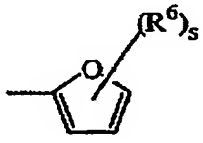

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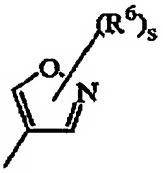

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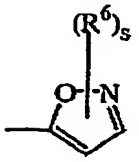

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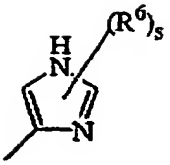

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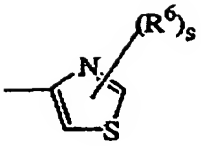

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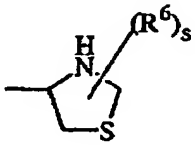

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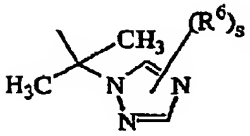

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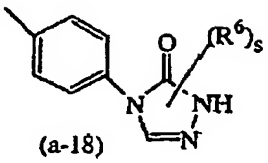

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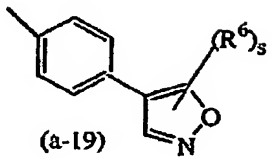

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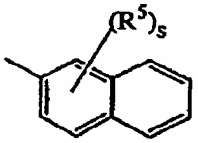

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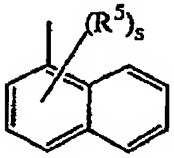

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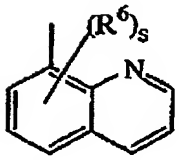

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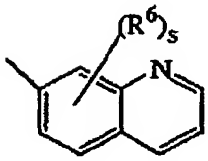

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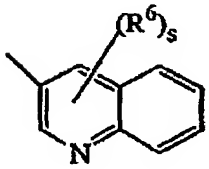

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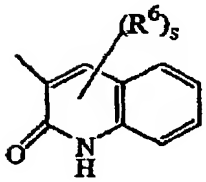
(a-25)



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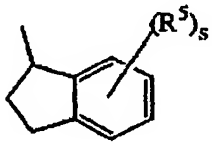

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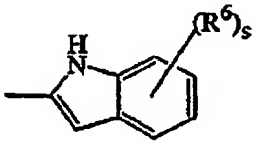

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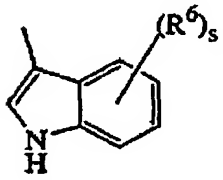

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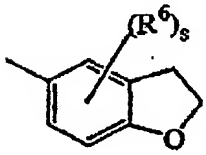

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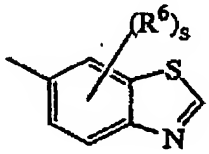

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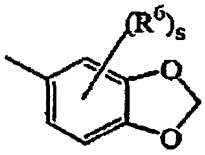

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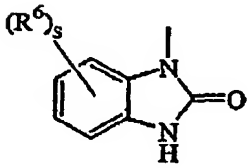

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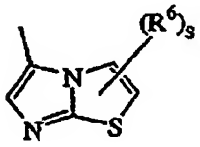

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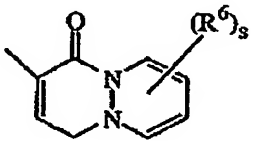

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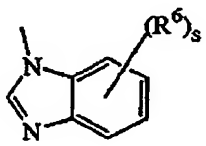

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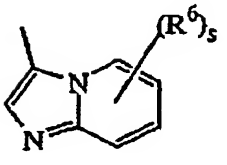

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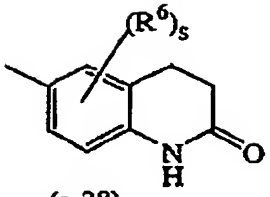

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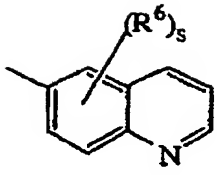

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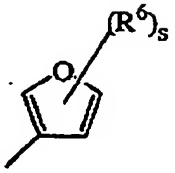

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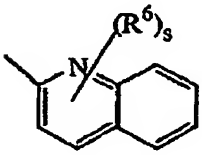

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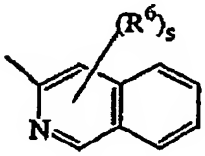

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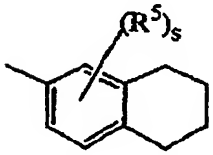

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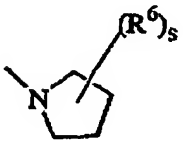

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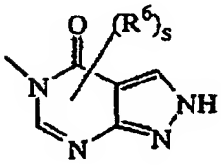

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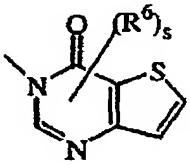
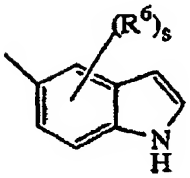


(a-46)

(a-47)



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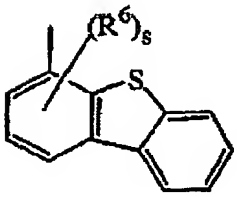

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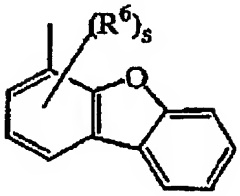
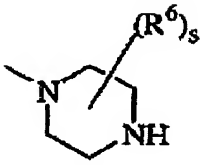


(a-50)



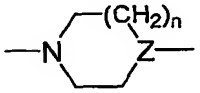
(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}-alkyloxy; C_{1-6}-alkyloxyC_{1-6}-alkyloxy; C_{1-6}-alkylcarbonyl; C_{1-6}-alkyloxycarbonyl; C_{1-6}-alkylsulfonyl; cyanoC_{1-6}-alkyl; hydroxyC_{1-6}-alkyl; hydroxyC_{1-6}-alkyloxy; hydroxyC_{1-6}-alkylamino; aminoC_{1-6}-alkyloxy; di(C_{1-6}-alkyl)aminocarbonyl; di(hydroxyC_{1-6}-alkyl)amino; (aryl)(C_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkyloxy; di(C_{1-6}-alkyl)aminoC_{1-6}-alkylamino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkylaminoC_{1-6}-alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}-alkyl; arylC_{2-6}-alkenediyl; di(C_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; di(di(C_{1-6}-alkyl)amino(C_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)amino(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; di(C_{1-6}-

alkyl)aminoC $_{1-6}$-alkyl(C_{1-6}-alkyl)amino; di(Ci.$_6$-alkyl)aminoC $_{1-6}$-alkyl(C_{1-6}-alkyl)aminoC$_{1-6}$-alkyl; aminosulfonylaminolCi.e-alkyDaminoj aminosulfonylaminolCi.e-alkyDaminoCi.e-alkyl; di(C_{1-6}-alkyl)aminosulfonylamino(Ci. $_6$-alkyl)amino; di(Ci.$_6$-alkyl)aminosulfonylamino(Ci. $_5$-alkyl)aminoCi. $_6$-alkyl; cyano; thiophenyl; thiophenyl substituted with di(Ci.$_6$-alkyl)aminoCi. $_6$-alkyKCi-e-alkyDaminoCi-e-alkyl, di(C_{1-6}-alkyl)aminoC $_{1-6}$-alkyl, Ci-e-alkylpiperazinylCi-e-alkyl, hydroxyCi.e-alkylpiperazinylCi.e-alkyl^hydroxyCi.e-alkyloxyCi.e-alkylpiperazinylCi-e-alkyl, di(Ci.$_6$-alkyl)aminosulfonylpiperazinylC $_{1-6}$-alkyl, Ci-$_6$-alkyloxypiperidinyl, Ci.$_6$-alkyloxypiperidinylCWalkyl, morpholinylCi. $_6$-alkyl, hydroxyCi.6-alkyl(Ci.6-alkyl)aminoC$_{1-6}$-alkyl, or di(hydroxyCi. $_5$-alkyl)aminoCi. $_6$-alkyl; furanyl; furanyl substituted with hydroxyCi. $_6$-alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and Ci$_{-6}$-alkyl; C_{1-6}-alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylCi. $_s$-alkyloxy; morpholinyl; C_{1-6}-alkylmorpholinylj morpholinylCi-e-alkyloxy; morpholinylC $_{1-6}$-alkyl; morpholinylCi-e-alkylamino; morpholinylC^e-alkylaminoCi-e-alkyl; piperazinyl; Ci.$_s$-alkylpiperazinyl; Ci $_{-6}$-alkyipiperazinylC $_{1-6}$-alkyloxy; piperazinylC $_{1-6}$-alkyl; naphthaienylsulfonylpiperazinyl; naphthalenylsulfonylpiperidinyl; naphthalenylsulfonyl; Ci-e-alkylpiperazinylCi-e-alkyl; Ci.$_6$-alkylpiperazinylCi-e-alkylamino; Ci-e-alkylpiperazinylCi.e-alkylaminoCx.e-alkyl; Ci $_{-6}$-alkylpiperazinylsulfonyl; aminosulfonylpiperazinylCi-e-alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylCi-e-alkyl; di(C_{1-6}-alkyl)aminosulfonylpiperazinyl; di(Ci.$_6$-alkyDaminosulfonylpJperazinylCi-e-alkyl; hydroxyCi $_{-6}$-alkylpiperazinyl; hydroxyCi-$_6$-alkylpiperazinylCi-6-alkyl; Ci-5-alkyloxyperidinyl; Ci-e-alkyloxypiperidinylCx-$_6$-alkyl; piperidinylaminoC $_{1-6}$-alkylamino; piperidinylaminoCi.6-alkylaminoCi.6-alkyl; (Ci.$_6$-alkylpiperidinyl)(hydroxyCi _6-alkyl)aminoC$_{1-6}$-alkylamino; (Ci.$_6$-alkylpiperidinyl)(hydroxyCi. $_6$-alkyl)aminoCi. $_5$-alkylaminoCi-$_6$-alkyl; hydroxyCi-e-alkyloxyCi-e-alkylpiperazinyl; hydroxyCi. $_6$-alkyloxyCi-e-alkylpiperazinylCi-e-alkyl; (hydroxyCi. $_6$-alkyl)(Ci.$_6$-alkyl)amino; (hydroxyCi. $_5$-alky!)(Ci $_{-6}$-alky!)aminoCi _6-alkyl; hydroxyC^-alkylaminoCi-e-alkyl; di(hydroxyCi. $_6$-alkyl)aminoCi. $_6$-alkyl; pyrrolidinylCi. $_6$-alkyl; pyrrolidinylCi. $_6$-alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from Ci-$_6$-alkyl and trihaloCi. $_6$-alkyl; pyridinyl; pyridinyl substituted with Ci.$_6$-alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinylj tetrahydropyrimidinylpiperazinylCi-e-alkyl; quinolinyl; indolyl; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitroA-e-alkyl, Ci.$_6$-alkyloxy, hydroxyCi $_4$-alkyl, trifluoromethyl,

trifluoromethyloxy, hydroxyCi $_4$-alkyloxy, C_{14}-alkylsulfonyl, C_{1-4}-alkyloxyC_{1-4}-alkyloxy, Ci$_4$-alkyioxycarbonyl,aminoCi $_4$-alkyloxy, di(Ci$_4$-alkyl)aminoC $_{14}$-alkyloxy, di(C $_{14}$-alkyl)amino, di(C $_{14}$-alkyl)aminocarbonyl, di(Ci$_4$-alkyl)aminoCi $_4$-alkyl, di(C $_{14}$-alkyl)aminoC $_{14}$-alkylaminoCi. $_4$-alkyl, di(Ci$_4$-alkyl)amino(Ci$_4$-alkyl)amino, di(C $_{14}$-alkyl)amino(C $_{14}$-alkyl)aminoC $_{14}$-alkyl, di(C $_1$. $_4$-alkyl)aminoC $_{14}$-alkyl(Ci$_4$-alkyl)amino, di(C $_{14}$-alkyl)aminoC $_{14}$-alkyl(C $_{14}$-alkyl)aminoC $_{14}$-alkyl, aminosulfonylamino(Ci $_4$-alkyl)amino, aminosulfonylamino(C $_{14}$-alkyl)aminoC $_{14}$-alkyl, di(C $_{14}$-alkyl)aminosulfonylamino(C $_{14}$-alkyl)amino, di(C $_{14}$-alkyl)aminosulfonylamino(Ci $_4$-alkyl)aminoC $_{14}$-alkyl, cyano, piperidinylC $_{14}$-alkyloxy, pyrrolidinylC $_{14}$-alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylCw-alkyl, di(C $_{14}$-alkyDaminosulfonylpiperazinyl, di(C $_{14}$-alkyl)aminosulfonylpiperazinylC $_{14}$-alkyl, hydroxyC $_{14}$-alkylpiperazinyl, hydroxyC $_{14}$-alkylpiperazinylC $_{14}$-alkyl, Ci$_4$-alkyloxypiperidinyl, Ci$_4$-alkyloxypiperdinylC $_{14}$-alkyl, hydroxyC_{1-4}-alkyloxyCw-alkylpiperazinyl^ydroxyCw-alkyloxyCi. $_4$-alkylpiperazinylCi $_4$-alkyl, (hydroxyCi$_4$-alkyl)(Ci$_4$-alkyl)amino, (hydroxyCi $_4$-alkyl)(Ci$_4$-alkyl)aminoCi $_4$-alkyl, di(hydroxyCi $_4$-atkyl)amino, di(hydroxyC $_{14}$-alkyl)aminoCi $_4$-alkyl, furanyl, furanyl substituted with-CH=CH-CH=CH-, pyrrolidinylCu-alkyl, pyrrolidinylCi $_4$-alkyloxy, morpholinyl, morpholinylC $_{14}$-alkyloxy, morpholiny)Ci $_4$-alkyl,morpholinylC $_{14}$-alkylamino, morpholinylCu-alkylaminoCi- $_4$-alkyl, piperazinyl, Ci$_4$-alkylpiperazinyl, C_{1-4}-alkylpiperazinylC_1. $_4$-alkyloxy, piperazinylC $_{14}$-alkyl, Ci$_4$-alkylpiperazinylC $_{14}$-alkyl, C$_{14}$-alkylpiperazinylCi $_4$-alkylamino, Ci^.-alkylpiperazinylCi-$_4$-alkylaminoCi^-alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylCi- $_4$-alkyl, piperidinylaminoCw-alkylamino, piperidinylaminoCu-alkylaminoCu-alkyl, (Ci$_4$-alkylpiperidiny!)(hydroxyCi $_4$-alkyl)aminoCi$_4$-alkylamino, (C $_{14}$-alkylpiperidinyl)(hydroxyCi $_4$-alkyl)aminoCi $_4$-alkylaminoCi $_4$-alkyl, pyridinylCi $_4$-alkyloxy, hydroxyCi $_4$-alkylamino, hydroxyCi $_4$-alkylaminoCi $_4$-alkyl, di(Ci$_4$-alkyl)aminoCi $_4$-alkylamino, aminothiadiazolyl,aminosulfonylpiperazinylCi $_4$-alkyloxy, and thiophenylCu-alkylamino; the central moiety



is optionally bridged *{i.e.,* forming a bicyclic moiety) with a methylene, ethylene or propylene bridge;

each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, Ci-6-alkyi, (-Walkyloxy, trifluoromethyl, cyano, and hydroxycarbonyl.

83. The compound of claim 82 wherein:

n is 1 or 2;

t is 0, 1 or 2;

each Z is nitrogen;

R^{12} is hydrogen, nitro, C_{1-6}-alkyloxy, trifluoromethyl, di(C_{1-5}-alkyl) amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

-L-is a direct bond or a bivalent radical selected from Cw-alkanediyl, carbonyl and aminocarbonyl;

each R^{13} is hydrogen;

R^{14} is hydrogen, hydroxyC_{1-6}-alkyl, aminocarbonyl, hydroxyaminocarbonyl or di(Ci-6-alkyl) aminoCi-s-alkyl;

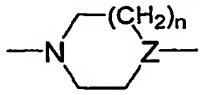
the A ring is a radical selected from (a-1), (a-7), (a-9),(a-10), (a-12), (a-14), (a-19), (a-20), (a-21), (a-22), (a-23), (a-30), (a-34), (a-49) and (a-50);

each s is independently 0,1, 2 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; nitro; **trihaloCi.6-alkyl;** trihaloCi-6-alkyloxy; Ci-6-alkyl; CWalkyloxy; Ci-6-alkylsulfonyl; (aryl)(Ci.5-alkyl)amino; arylsulfonyl; aryloxy; arylC^e-alkenediyl; di(C_{1-6}-alkyl)amino; thiophenyl; thiophenyl substituted with dKCi-e-alkyDaminoCi-e-alkyKCi-e-alkyDaminoCi-e-alkyl, dKCi-e-alkyOaminoCi-e-alkyl.Ci-e-alkylpiperazinylCi-e-alkyl, hydroxyCi-6-alkylpiperazinylCi-e-alkyl, hydroxyCi.6-alkyloxyCi.6-alkylpiperazinylCi.6-alkyl, ditCi-e-alkyDaminosulfonylpiperazinylCi-e-alkyl, Ci.5-alkyloxypiperidinylCi-6-alkyl, morpholinylCi.6-alkyl, hydroxyCi-s-alkyKCi-e-alkyDaminoCi-s-alkyl, or difhydroxyCi-e-alkyDaminoCi-6-alkyl; furanyl; oxazolyl; pyrrolyl; pyrazolyl; pyridinyl; pyridinyl substituted withC_{1-6}-alkyloxy; quinolinyl; indolyl; phenyl; and phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, di(Ci-4-alkyl)aminoCi-4-alkyloxy, di(Ci-4-alkyl)amino, di(Ci-4-alkyl)aminoC1-4-alkyl, dKCu-alkyDaminoCw-alkyKCu-alkyDamino, dilC^-alkyDaminoCw-alkyKCu-alkyDaminoC1-4-alkyl, hydroxyC_{1-4}-alkylpiperazinylCi-4-alkyl, hydroxyC^-alkyloxyCw-alkylpiperazinylCw-alkyl, di (hydroxyC_{1-4}-

alkyl)aminoCi $_4$-alkyl, pyrrolidinylCw-alkyl, pyrrolidinylC $_{1-4}$-alkyloxy, morpholinylCu-alkyloxy, morpholinylCw-alkyl, and Cw-alkylpiperazinylCw-alkyl, and

the central moiety



is optionally bridged *(i.e.,* forming a bicyclic moiety) with a methylene bridge.

84. The compound of claim 83 wherein:

t is O or 2;

R^{12} is hydrogen;

-L-is a direct bond;

R^{14} is hydrogen;

the A ring is a radical selected from (a-1), (a-9), (a-19), (a-20), (a-21), (a-22), (a-23), (a-49) and (a-50); and

each R^5 and R^6 is independently selected from hydrogen; halo; trihaloCi $_{-6}$-alkyl; trihaloCi$_{-6}$-alkyloxy; Ci$_{-6}$-alkyl; C$_{1-6}$-alkyloxy; arylC^-alkenediyl; di(Ci.$_6$-alky)amino; thiophenyl; thiophenyl substituted with dKCi^-alkyDaminoCi-s-alkyKC^alkyDaminoCi-ralkyl, di(Ci$_{-6}$-alkyDaminoCi-ralkyl, Ci-e-alkylpiperazinylCi-s-alkyl, hydroxyCi-e-alkylpiperazinylCi^-alkyl, hydroxyCi-$_6$-alkyloxyCi-e-alkylpiperazinylCi-e-alkyl, Ci^-alkyloxypiperidinylC $_{1-6}$-alkyl, morpholinylCi-6-alkyl, hydroxyCi^-alkyl(Ci^-alkyl)aminoCi-s-alkyl, or di(hydroxyC $_{1-6}$-alkyDaminoCi-6-alkyl; furanyl; oxazolyl; pyrazolyl; pyridinyl; pyridinyl substituted with Ci.$_6$-alkyloxy; quinolinyl; indolyl; phenyl; and phenyl substituted with one, two or three substituents independently selected from halo, amino, CWalkyl, C$_{1-6}$-alkyioxy, hydroxyC $_{14}$-alkyl, trifluoromethyl, trifluoromethyloxy, dKCu-alkyDaminoC^-alkyloxy, di(Ci$_4$-alkyl)amino, di(C$_{1-4}$-alkyl)aminoC$_{1-4}$-alkyl, di(Ci$_4$-alkyl)aminoC $_{14}$-alkyl(C $_{14}$-alkyl)aminoCi $_4$-alkyl, hydroxyCi.$_4$-alkylpiperazinylCi $_4$-alkyl, hydroxyCw-alkyloxyC $_{1-4}$-alkylpiperazinylCw-alkyl, di(hydroxyC $_{1-4}$-alkyl)aminoCi $_4$-alkyl, pyrrolidinylCu-alkyl pyrrolidinylC^-alkyloxy, morpholinylCWalkyloxy, morpholinylCi $_4$-alkyl, and C^-alkylpiperazinylCw-alkyl.

85. The compound of claim 83 wherein:

n is 1;

t is o;

R^{12} is hydrogen;

-L-is a direct bond;

R^{14} is hydrogen;

the A ring is a radical selected from (a-1) and (a-20);

each s is independently Oor 1; and

each R^5 and R^6 is independently selected from hydrogen; thiophenyl; thiophenyl substituted with di($C_{1\text{-}5}$-alkyl)amino$C_{1\text{-}6}$-alkyl or C^-alkylpiperazinylCi-e-alkyl; furanyl; phenyl; and phenyl substituted with one substituents independently selected from dKCu-alkyOaminoCpr alkyloxy, dKCw-alkyOamino, di(Ci4-alkyl)aminoCi4-alkyl, dilCM-alkyDaminoCw-alkyKCw-alkyl)aminoCi$_4$-alkyl, pyrrolidinylCWalkyl, pyrrolidinylC^-alkyloxy and Ci$_4$-alkylpiperazinylCu-alkyl.

86. The compound of claim 82 wherein L is a direct bond and R^{12} is H.

87. The compound of claim 82 wherein:

t is o;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, Ci.$_6$-alkyl, $C_{1\text{-}6}$-alkyloxy, trifluoromethyl or dKCW alkyOamino;

-L- is a direct bond or a bivalent radical selected from $C_{1\text{-}6}$-alkanediyl, amino, and carbonyl;

R^{14} is hydrogen, hydroxy, amino, hydroxyCi.$_6$-alkyl, CWalkyl, C^-alkyloxy, arylCWalkyl, aminocarbonyl, aminoCi.$_6$-alkyl, Ci-e-alkylaminoCi-e-alkyl or di(Ci.$_6$-alkyl)amino$C_{1\text{-}6}$-alkyl;

the A ring is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) and (a-51);

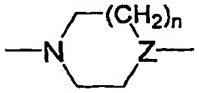
each s is independently 0, 1, 2, 3 or 4;

R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloCi.$_6$-alkyl; trihaloCi.$_6$-alkyloxy; Ci.$_6$-alkyl; Ci.$_6$-alkyloxy; Ci.$_6$-alkylcarbonyl; $C_{1\text{-}6}$-alkyloxycarbonyl; Ci$_6$-alkylsulfonyl; hydroxyCi.$_6$-alkyl; aryloxy; di($C_{1\text{-}6}$-alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyCi.$_6$-alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and Ci.$_6$-alkyl; $C_{1\text{-}6}$-alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; Ci.$_6$-alkylmorpholinyl; piperazinyl; CWalkylpiperazinyl; hydroxyCi$_6$-alkylpiperazinyl; Ci.$_6$-alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from Ci$_6$-alky and trihaloCi-$_6$-alkyl; pyridinyl; pyridinyl substituted with d $_6$-alkyloxy, aryloxy or aryl;

pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, Ci$_{-6}$-alkyl, Ci.$_{6}$-alkyloxy, or trifluoromethyl;

R^{6} is hydrogen; halo; hydroxy; amino; nitro; trihaloCi $_{-6}$-alkyl; trihaloCi $_{-6}$-alkyloxy; C$_{1-6}$-alkyl; Ci.$_{6}$-alkyloxy; C$_{1-6}$-alkylcarbonyl; CWalkyloxycarbonyl; Ci $_{-6}$-alkylsulfonyl; hydroxyCi $_{-6}$-alkyl; aryloxy; di(Ci $_{-6}$-alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C$_{1-6}$-alkyl, Ci.$_{5}$-alkyloxy, and trifluoromethyl, and

the central moiety



is optionally bridged *(i.e.,* forming a bicyclic moiety) with an ethylene bridge.

88. The compound of claim 82 wherein:

R^{12} is hydrogen, halo, hydroxy, amino, nitro, Ci.$_{6}$-alkyl, CWalkyloxy, trifluoromethyl, hydroxyamino or naphthalenylsulfonylpyrazinyl;

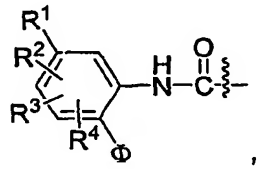
R^{w} is hydrogen, hydroxy, amino, hydroxyCi.$_{6}$-alkyl, C$_{1-6}$-alkyloxy, arylCi.$_{6}$-alkyl, aminocarbonyl, hydroxycarbonyl, aminoCi.$_{6}$-alkyl, aminocrbonylCi-$_{6}$-alkyl, hydroxycarbonylCWalkyl, hydroxyaminocarbonyl, Ci-e-alkyloxycarbonyl, Ci.$_{6}$-alkylaminoCi.$_{6}$-alkyl or CJi(Ci$_{-6}$-alkyl)aminoCi-$_{6}$-alkyl;

the A ring is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-1 1)$_{1}$ (a-1 2), (a-13), (a-14), (a-15), (a-16), (a-1 7), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-3 1)$_{1}$ (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-43) and (a-44); and

each R^{5} and R^{6} are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloCi $_{-6}$-alkyl; trihaloCi.$_{6}$-alkyloxy; Ci.$_{6}$-alkyl; Ci $_{-6}$-alkyloxy; Ci-$_{6}$-alkyloxyCi-e-alkyloxy; Ci.$_{6}$-alkylcarbonyl; C$_{1-6}$-alkylsulfonyl; cyanoCi.$_{6}$-alkyl; hydroxyCi.$_{5}$-alkyl; hydroxyCi-s-alkyloxy; hydroxyCi-$_{6}$-alkylamino; aminoC^-alkyloxy; di(C$_{1-6}$-alkyl)aminocarbonyl; difliydroxyCW alkyDamino; di(Ci-$_{6}$-alkyl)aminoCi.$_{6}$-alkyloxy; di(Ci.$_{6}$-alkyl)aminoCi.$_{6}$-alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC^-alkenediyl; di(C$_{1-6}$-alkyl)amino; cyano; thiophenyl; thiophenyl substituted with di(Ci $_{-s}$-alkyl)aminoCi $_{6}$-alkyl(Ci $_{6}$-alkyl)aminoC $_{1-6}$-alkyt, di(Ci $_{-6}$-alkyl)aminoCi-$_{6}$-alkyl, Ci-βalkylpiperazinylCi-e-alkyl or di(hydroxyCi-6-alkyl)aminoC $_{1-6}$-alkyl; furanyl; imidazolyl; Ci.$_{6}$-alkyltriazolyl; tetrazolyl; piperidinylCi $_{-6}$-alkyloxy; morpholinyl; Ci-$_{6}$-

alkylmorpholinyl; morpholinylCi. $_6$-alkyloxy; morpholinylC $_{1-6}$-alkyl; Ci $_{-6}$-alkylpiperazinyiCi $_{-6}$-alkyloxy; Ci-e-alkylpiperazinylC^-alkyl; Ci.$_6$-alkylpiperazinylsulfonyl; aminosulfonylpiperazinylCi-e-alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylCi. 6-alkyl; di(Ci $_{-6}$-alkyl)anninosulfonylpiperazinyl; dKCi-e-alkyDaminosulfonylpiperazinylCi-e-alkyl; hydroxyCi-$_6$-alkylpiperazinyl; hydroxyC^-alkylpiperazinylCi-e-alkyl; Ci $_{-6}$-alkyloxyp[peridiny[; Ci-e-alkyloxypiperidinylCi-e-alkyl; hydroxyCi-e-alkyloxyCi-e-alkyipiperazinyl; hydroxyC χ_6-alkyloxyCi-e-alkylpiperazinylCi-e-alkyl; (hydroxyd-e-alkylXCi-e-alkyDamino; (hydroxyCi. $_6$-alky[)(Ci $_{-6}$-alkyl}aminoCi $_{-6}$-alkyl; pyrrolidinyfC $_{1-6}$-alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C^e-alky) or trihaloC^-alkyl; pyridinyl; pyridinyl substituted with C_1-6-alkyloxy or aryl; pyrimidinyl; quinolinyl; phenyl; and phenyl substituted with one, two or three substituents independently selected from halo, amino, Ci.$_6$-alkyl, Ci.$_6$-alkyloxy, hydroxyC $_{14}$-alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC $_{14}$-alkoxy, C $_{14}$-alkyloxyC $_{14}$-alkoxy, aminoCi $_4$-alkyloxy, di(Ci $_4$-alkyl)aminoCi $_4$-alkyloxy, di(C $_{1-4}$-alkyDamino, piperidinylC $_{1-4}$-alkyloxy, pyrrolidinylC $_{14}$-alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylCw-alkyl, di(Ci $_4$-alkyl)aminosulfonylpiperazinyl, di(Ci $_4$-alkyl)aminosulfonylpiperazinylC $_{14}$-alkyl, hydroxyC $_{14}$-alkylpiperazinyl, hydroxyC $_{14}$-alkylpiperazinylC $_{14}$-alkyl, Ci $_4$-alkyloxypiperidinyl, Cu-alkoxypiperidinylC^-alkyl, hydroxyCi. $_4$-alkyloxyC $_{14}$-alkylpiperazinyl, hyroxyCw-alkoxyCw-alkylpiperazinylCw-alkyl, hydroxyCi $_4$-alkyl)(C $_{14}$-alkyl)amino, (hydroxyCi $_4$-alkyl)(Ci $_4$-alkyl)aminoGi $_4$-alkyl, pyrrolidinylCi $_4$-alkoxy, morpholinylCi-$_4$-alkyloxy, morpholinylC $_{14}$-alkyl, C $_{14}$-alkylpiperazinylCi $_4$-alkoxy, C $_{14}$-alkylpiperazinylCi-$_4$-alkyl, hydroxyCi $_4$-alkylamino, di(hydroxyCi $_4$-alkyl)amino, di(C $_{14}$-alkyl)aminoCi $_4$-alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC^-alkyloxy, and thiophenylCw-alkylamino.

89. The compound of claim 82 that is selected from one of the compounds of pages 21 and 22 and Table F-I of WO 03/076422 wherein the terminal hydroxamic acid moiety (HO-NH-C(O)-) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in claim 1.

90. A compound according to claim 82 for use in inhibting histone deacetylase.
91. A compound according to calim 82 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.
92. The compound of claim 91, wherein said treatment is effected by inhibiting histone deacetylase.
93. The compound of calim 91, wherein said cell proliferative disease is a neoplastic cell proliferative disease.
94. The compound of claim 91, wherein said cell proliferative disease is cancer.
95. The compound of claim 94, wherein said cancer is a solid tumor cancer.
96. The compound of claim 94, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.
97. A pharmaceutical composition comprising a compound according to claim 82 and a pharmaceutically acceptable carrier.
98. The pharmaceutical composition of claim 97 further comprising a nucleic acid level inhibitor of histone deacetylase.
99. The pharmaceutical composition of claim 98, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.
100. The pharmaceutical composition of claim 99, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:l, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.
101. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 82.
102. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 97.
103. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising

administering to said individual a treatment effective amount of the pharmaceutical composition of claim 98.

104. The method of claim 102, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

105. The method of claim 102, wherein said cell proliferative disease is cancer.

106. The method of claim 102, wherein said cancer is a solid tumor cancer.

107. The method of claim 106, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

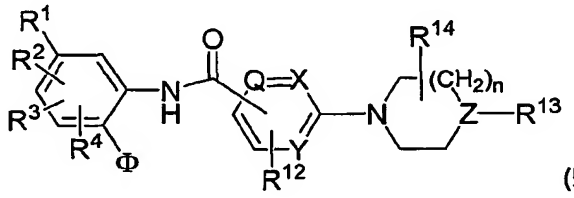
108. The method of claim 103, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

109. The method of claim 103, wherein said cell proliferative disease is cancer.

110. The method of claim 109, wherein said cancer is a solid tumor cancer.

111. The method of claim 110, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

112. A compound of the formula:



(5)

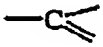
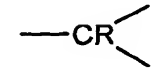
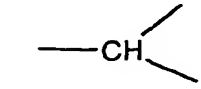
or a pharmaceutically acceptable salt thereof, wherein

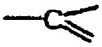
Φ is $-NH_2$ or -OH;

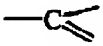
R^1 is H or as defined in paragraph claim 1;

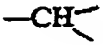
R^2, R^3, and R^4 are as defined in paragraph claim 1;

n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

Z is nitrogen or  ;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

R^{13} is hydrogen, C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, -C(O)phenylR^9, C_{1-6}alkylaminocarbonyl, aminosulfonyl, arylaminosulfonyl, aminosulfonylamino, di(C_{1-6}alkyl)aminosulfonylamino, arylaminosulfonylamino, aminosulfonylaminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylaminoC_{1-6}alkyl, arylaminosulfonylaminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl, trihaloC_{1-6}alkylsulfonyl, di(aryl)C_{1-6}alkylcarbonyl, thiophenylC_{1-6}alkylcarbonyl, pyridinylcarbonyl or arylC_{1-6}alkylcarbonyl

wherein each R^9 is independently selected from phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, hydroxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, or morpholinylC_{1-4}alkyl; thiophenyl; or thiophenyl substituted with di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, pyrrolidinylC_{1-4}alkyloxy, C_{1-4}alkylpiperazinylC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl or morpholinylC_{1-4}alkyloxy.

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

when R^{13} & R^{14} are present on the same carbon atom, R^{13} & R^{14} together may form a bivalent radical of formula

-C(O)-NH-CH_2-NR^{10}- (a-1)

wherein R^{10} is hydrogen or aryl;

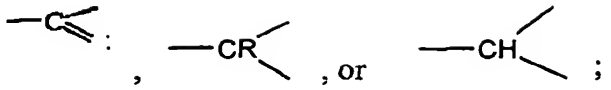
when R^{13} & R^{14} are present on adjacent carbon atoms, R^{13} & R^{14} together may form a bivalent radical of formula

=CH-CH=CH-CH= (b-1);

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

113. The compound of claim 112 wherein:

n is 0 or1;

Q is  ;

R^{12} is hydrogen or nitro;

R^{13} is C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, C_{1-6}alkylaminocarbonyl, aminosulfonyl, di(C_{1-6}alkyl)aminosulfonylaminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl, trihaloC_{1-6}alkylsulfonyl, di(aryl)C_{1-6}alkylcarbonyl, thiophenylC_{1-6}alkylcarbonyl, pyridinylcarbonyl or arylC_{1-6}alkylcarbonyl;

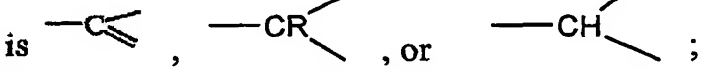
R^{14} is hydrogen;

when R^{13} & R^{14} are present on the same carbon atom R^{13} & R^{14} together may form a bivalent radical of formula (a-1) wherein R^{10} is aryl;

when R^{13} & R^{14} are present on adjacent carbon atoms R^{13} & R^{14} together may form a bivalent radical of formula (b-1).

114. The compound of claim 112 wherein:

n is 1;

Q is  ;

Z is nitrogen;

R^{12} is hydrogen;

R^{13} is naphtalenylcarbonyl, C_{1-12}alkylsulfonyl or di(aryl)C_{1-6}alkylcarbonyl;

R^{14} is hydrogen.

115. The compound of claim 112 wherein R^{12} is H.

116. The compound of claim 112 wherein:

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

R^{13} is hydrogen, C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, -C(O)phenylR^9, C_{1-6}alkylaminocarbonyl, aminosulfonyl, arylaminosulfonyl, aminosulfonylamino, di(C_{1-6}alkyl)aminosulfonylamino, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl or pyridinylcarbonyl wherein each R^9 is independently selected from phenyl; phenyl substituted with one, two or three substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy; or thiophenyl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl.

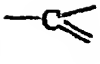
117. The compound of claim 112 wherein:

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

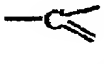
R^{13} is hydrogen, C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, -C(O)phenylR^9, C_{1-6}alkylaminocarbonyl, aminosulfonyl, arylaminosulfonyl, aminosulfonylamino, di(C_{1-6}alkyl)aminosulfonylamino, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl or pyridinylcarbonyl wherein each R^9 is independently selected from phenyl; phenyl substituted with one, two or three substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy; or thiophenyl; and

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl.

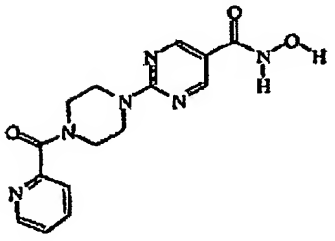
118. The compound of claim 112 wherein:

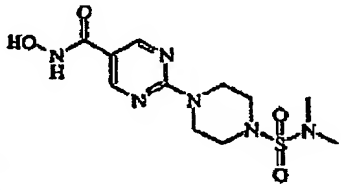
n is 0 or 1; Q is  ; or -NHC(O)C_{1-6}alkanediylSH; R^{12} is hydrogen or nitro: R^{13} is C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, C_{1-6}alkylaminocarbonyl, aminosulfonyl, di(C_{1-6}alkyl)aminosulfonylaminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl, trihaloC_{1-6}alkylsulfonyl, di(aryl)C_{1-6}alkylcarbonyl, thiophenylC_{1-6}alkylcarbonyl, pyridinylcarbonyl or arylC_{1-6}alkylcarbonyl; R^{14} is hydrogen; when R^{13} and R^{14} are present on the same carbon atom R^{13} & R^{14} together may form a bivalent radical of formula (a-1) wherein R^{10} is aryl; or when R^{13} & R^{14} are present on adjacent carbon atoms R^{13} & R^{14} together may form a bivalent radical of formula (b-1).

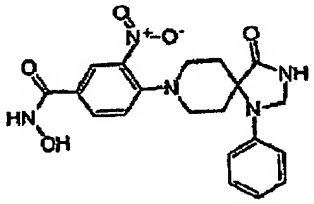
119. The compound of claim 112 wherein:

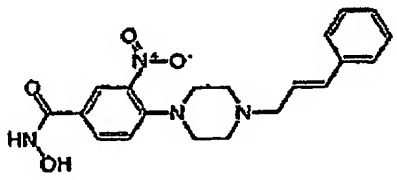
n is 1; Q is  ; Z is nitrogen; R^{12} is hydrogen; R^{13} is naphthalenylcarbonyl, C_{1-12}alkylsulfonyl or di(aryl)C_{1-6}alkylcarbonyl; and R^{14} is hydrogen.

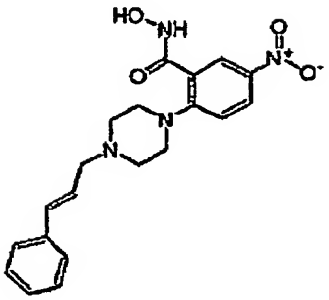
120. The compound of claim 112 that is selected from one of

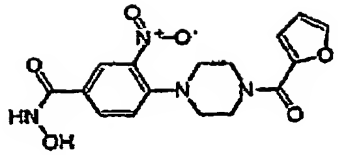


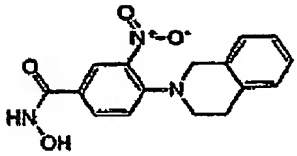


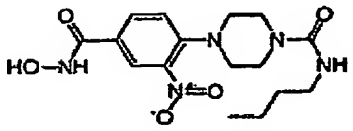


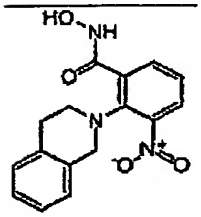


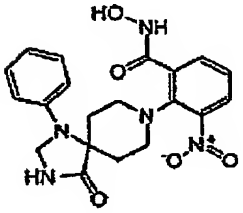


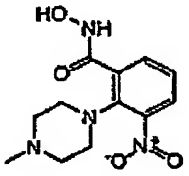


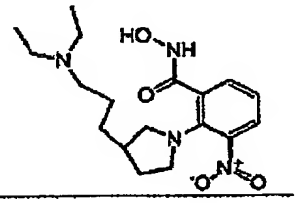


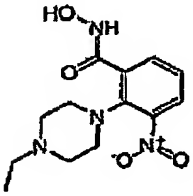


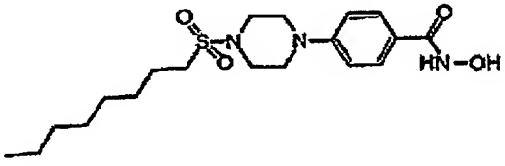


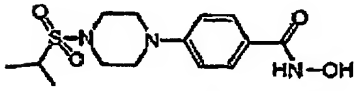


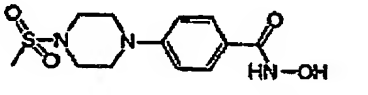


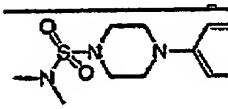


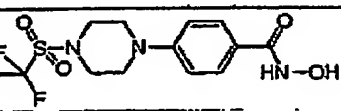


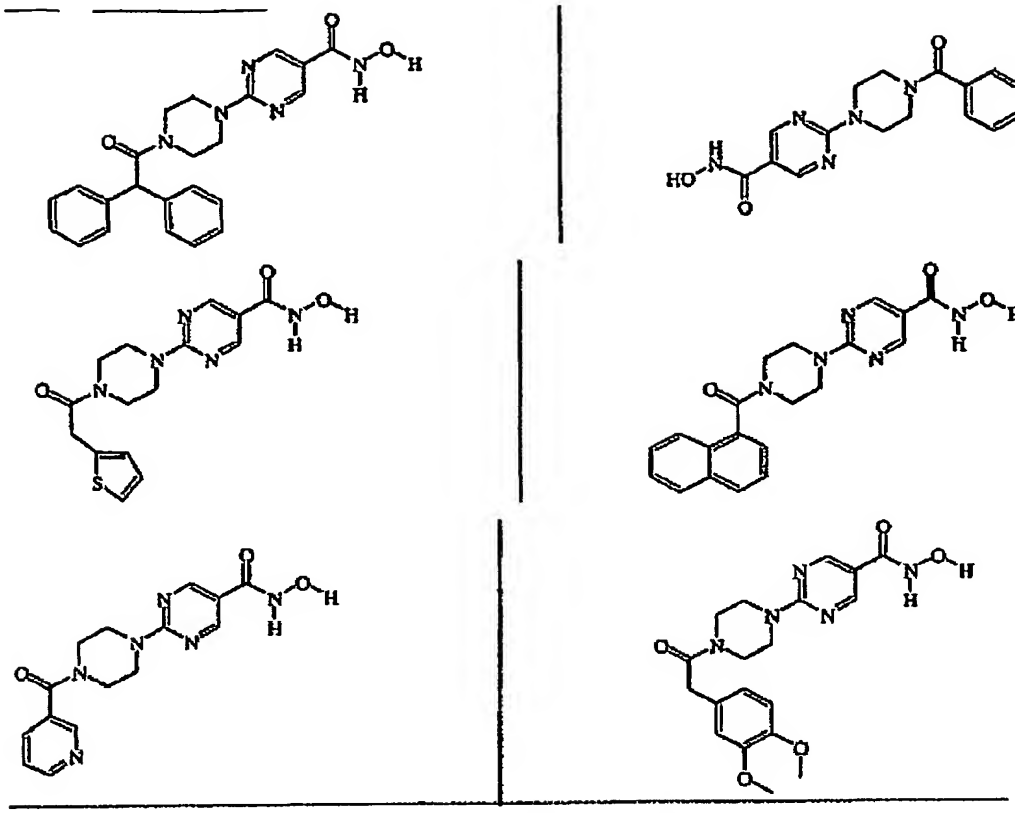




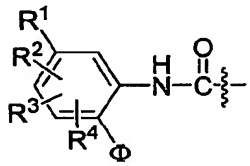








wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

121. A compound according to claim 112 for use in inhibting histone deacetylase.

122. A compound according to calim 112 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

123. The compound of claim 122, wherein said treatment is effected by inhibiting histone deacetylase.

124. The compound of calim 122, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

125. The compound of claim 122, wherein said cell proliferative disease is cancer.

126. The compound of claim 125, wherein said cancer is a solid tumor cancer.

127. The compound of claim 125, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

128. A pharmaceutical composition comprising a compound according to claim 112 and a pharmaceutically acceptable carrier.

129. The pharmaceutical composition of claim 128 further comprising a nucleic acid level inhibitor of histone deacetylase.

130. The pharmaceutical composition of claim 129, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

131 The pharmaceutical composition of claim 130, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:l, SEQ ID No: 2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID IMo:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

132. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 112.

133. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 128.

134. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 129.

135. The method of claim 133, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

136. The method of claim 133, wherein said cell proliferative disease is cancer.

137. The method of claim 136, wherein said cancer is a solid tumor cancer.

138. The method of claim 137, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

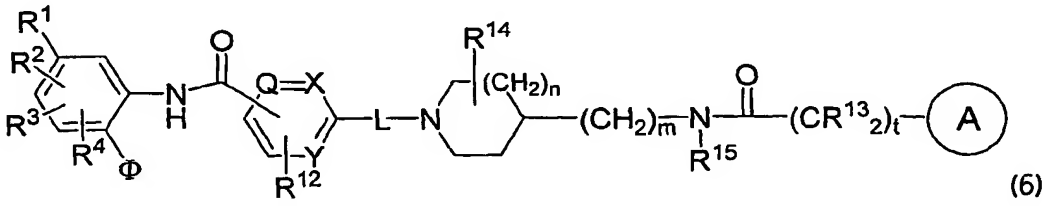
139. The method of claim 134, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

140. The method of claim 134, wherein said cell proliferative disease is cancer.

141. The method of claim 140, wherein said cancer is a solid tumor cancer.

142. The method of claim 141, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

143. A compound of the formula:



(6)

or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or -OH;

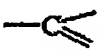
R^1 is H or as defined in claim 1;

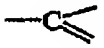
R^2, R^3, and R^4 are as defined in claim 1;

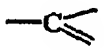
n is 0, 1, 2 or 3 and when n is Q then a direct bond is intended;

m Is 0 or 1 and when m is 0 then a direct bond is intended;

t is 0, 1, 2, 3 or 4 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7-alkyl-arylsulfanyl, C_1-C_7-alkyl-arylsulfinyl, C_1-C_7-alkyl-arylsulfonyl, C_1-C_7-alkyl-arylaminosulfonyl, C_1-C_7-alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

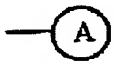
R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkanediyloxy, amino, carbonyl or aminocarbonyl;

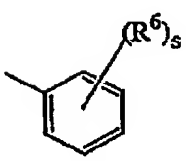
each R^{13} is independently represents a hydrogen atom and one hydrogen atom can be replaced by a substituent selected from aryl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

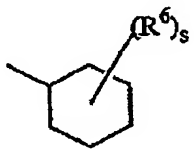
R^{15} is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl or aryl;



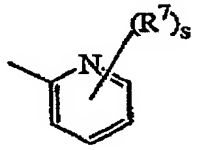
is a radical selected from



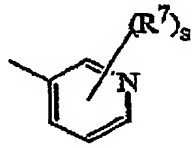
(a-1)



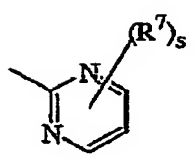
(a-2)



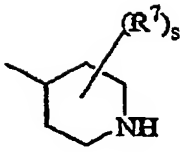
(a-3)



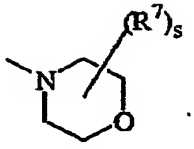
(a-4)



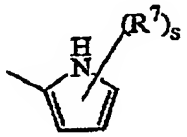
(a-5)



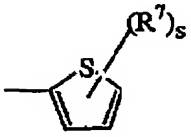
(a-6)



(a-7)



(a-8)



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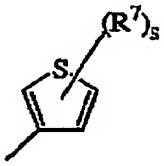
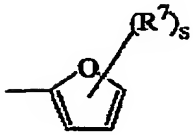


(a-10)



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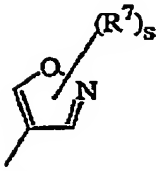

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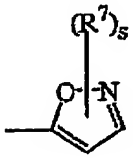

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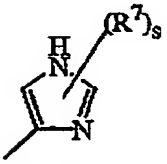

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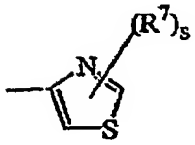

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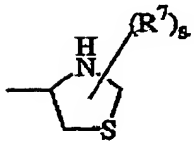

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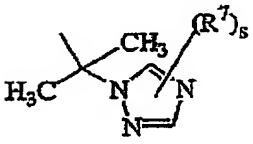

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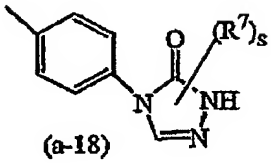

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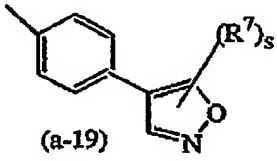

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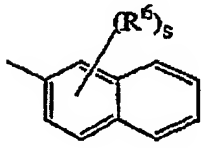

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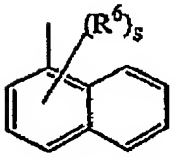

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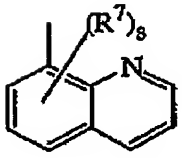

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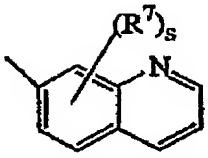

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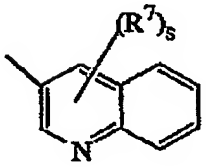

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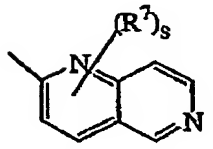
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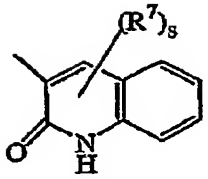
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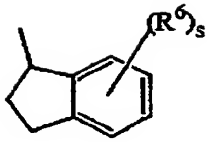
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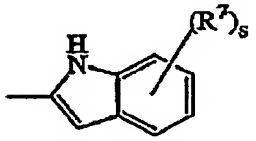
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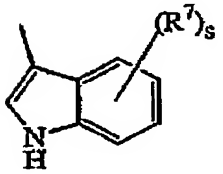
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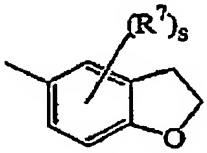
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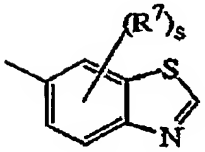
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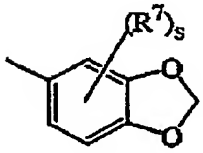
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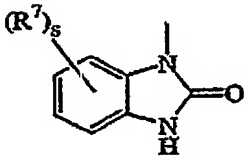
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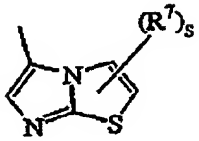
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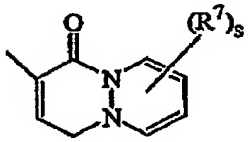
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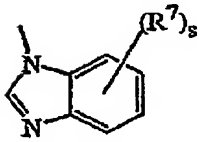
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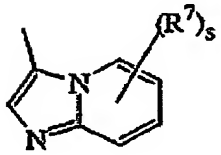
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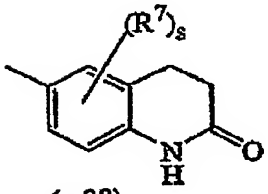
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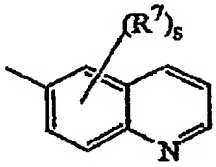
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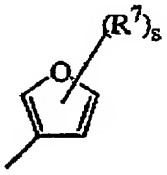
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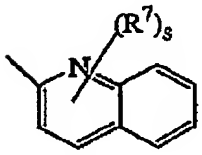
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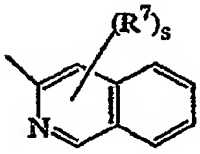
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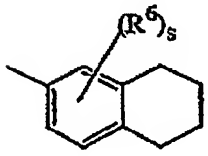
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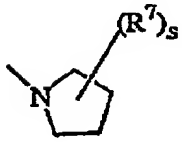
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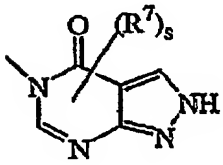
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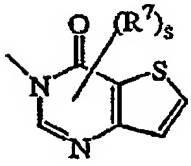
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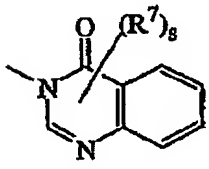
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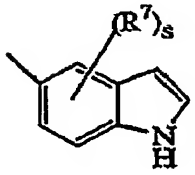
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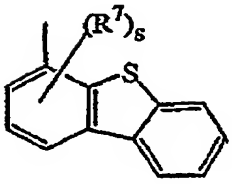

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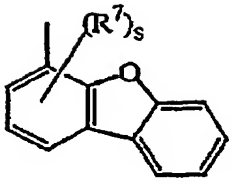

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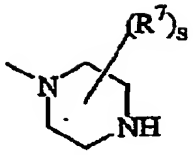


(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl,

di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents

independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino,

di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy; aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl,

morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy, hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

each R^6 and R^7 can be placed on the nitrogen in replacement of the hydrogen;

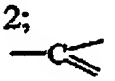
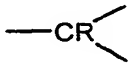
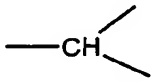
aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

144. The compound of claim 143 wherein:

n is 1;

m is 0 or 1;

t is 0,1 or 2;

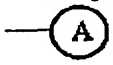
Q is  ,  , or  ;

R^{12} is hydrogen or C_{1-6}alkyl;

-L- is a direct bond;

R^{14} is hydrogen;

R^{15} is hydrogen;

 is a radical selected from (a-1), (a-20), (a-25), (a-27), (a-28), (a-29), (a-41) or (a-42);

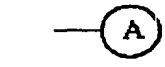
each s is independently 0, 1, 2 or 3;

each R^6 is independently selected from hydrogen, halo, C_{1-6}alkyl or C_{1-6}alkyloxy.

145. The compound of claim 143 wherein:

R^{15}

R^5 is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;


is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42) (a-43) or (a-44);

each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; arylC_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; imidazolyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl;

pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkyloxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, C_{1-4}alkylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylamino, di(hydroxyC_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino.

146. The compound of claim 143 wherein:

t = 0;

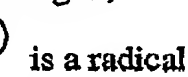
m = 0;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkanediyloxy, amino or carbonyl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^{15} is hydrogen;

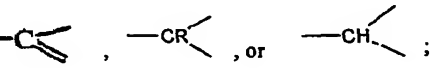

is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

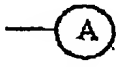
R^7 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

147. The compound of claim 143 wherein:

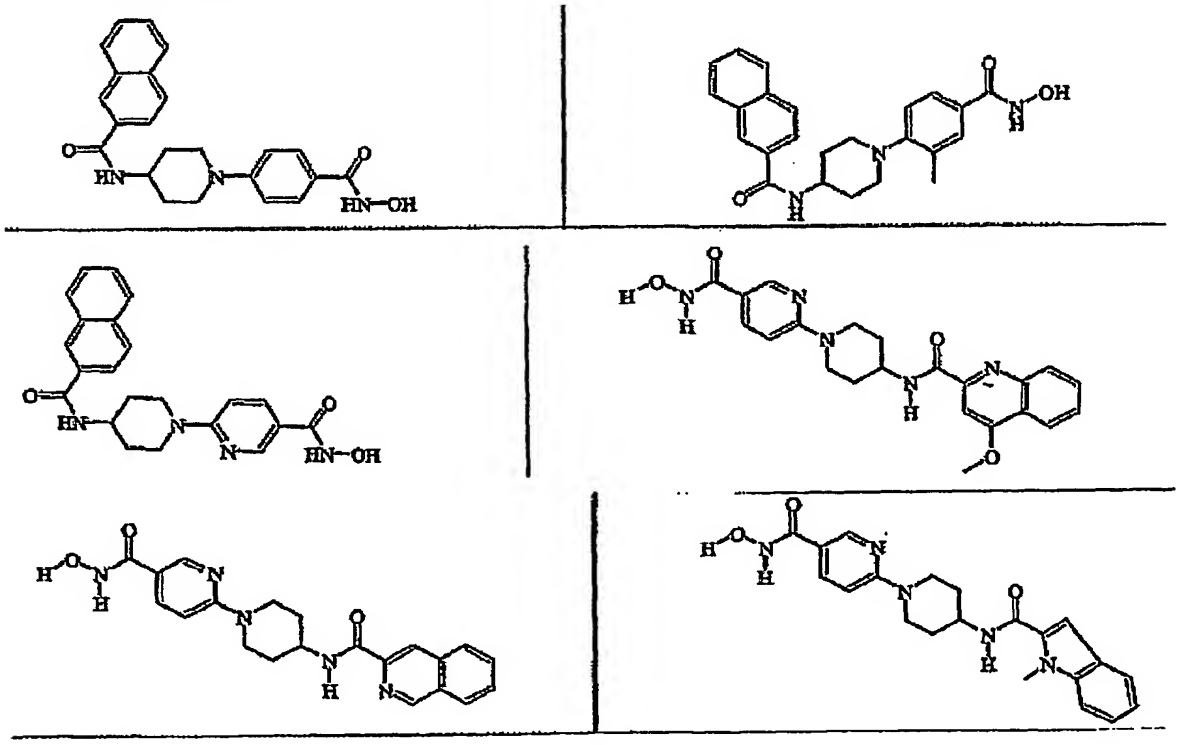
n is 1; m is 0 or 1; t is 0, 1 or 2; Q is  ;

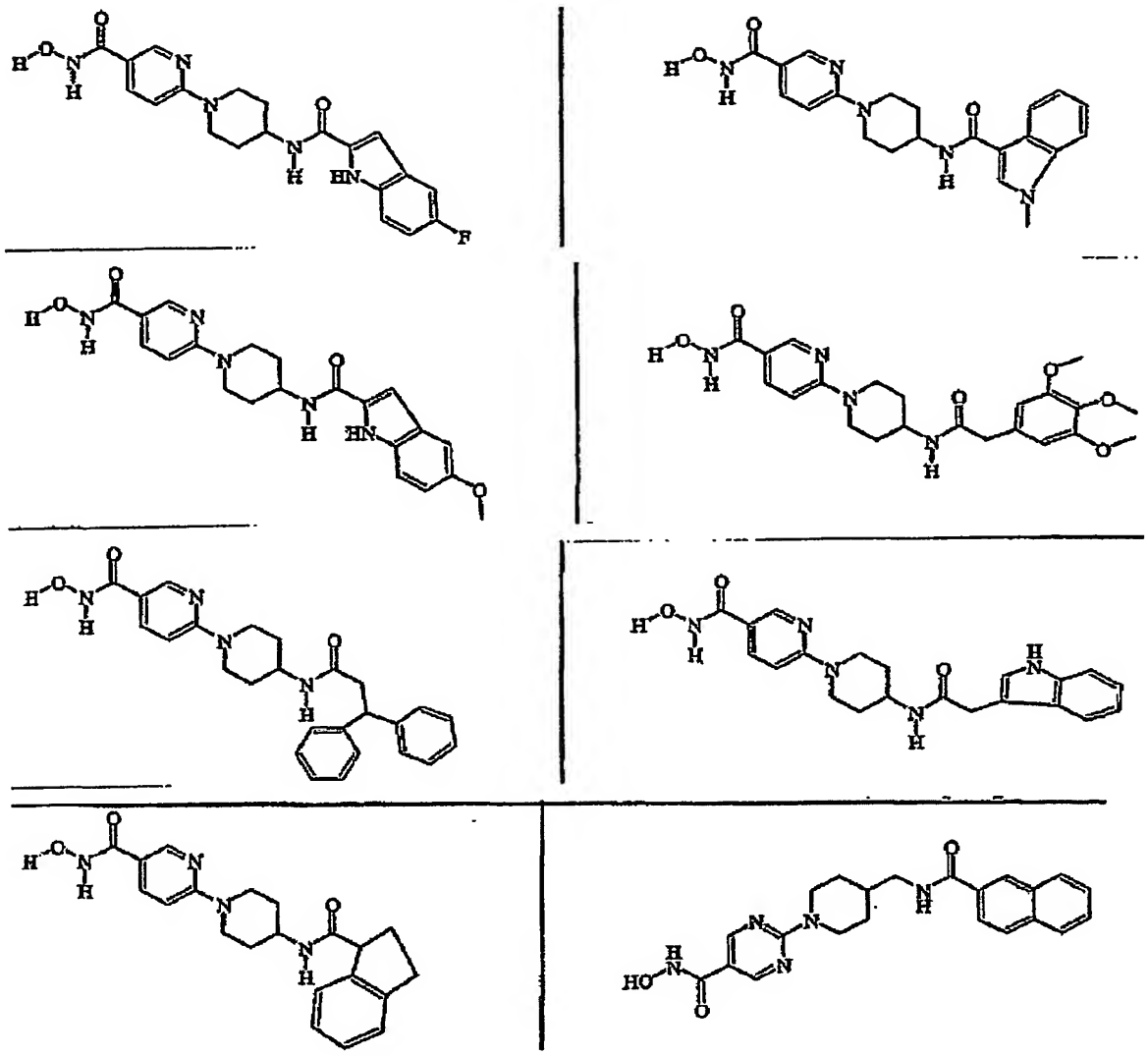
R^{12} is hydrogen; -L- is a direct bond;

R^{14} and R^{15} are H;

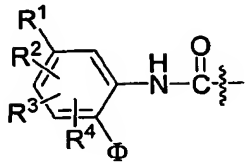
 is a radical selected from (a-1), (a-20), (a-27), (a-28), (a-29), (a-41) or (a-42); each s is independently 0, 1 or 2; and each R^6 is independently selected from hydrogen, halo, C_{1-6}alkyl or C_{1-6}alkyloxy.

148. The compound of claim 143 that is selected from one of





wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

149. The compound of claim 143 wherein R^1, R^2, R^3, and R^4 are all H.

150. A compound according to claim 143 for use in inhibting histone deacetylase.

151. A compound according to calim 143 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

152. The compound of claim 151, wherein said treatment is effected by inhibiting histone deacetylase.

153. The compound of calim 151, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

154. The compound of claim 151, wherein said cell proliferative disease is cancer.

155. The compound of claim 154, wherein said cancer is a solid tumor cancer.

156. The compound of claim 154, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

157. A pharmaceutical composition comprising a compound according to claim 143 and a pharmaceutically acceptable carrier.

158. The pharmaceutical composition of claim 157 further comprising a nucleic acid level inhibitor of histone deacetylase.

159. The pharmaceutical composition of claim 158, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

160. The pharmaceutical composition of claim 159, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:I, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:IO, SEQ ID No:II, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

161. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 143.

162. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 157

163. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 158.

164. The method of claim 162, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

165. The method of claim 162, wherein said cell proliferative disease is cancer.

166. The method of claim 165, wherein said cancer is a solid tumor cancer.

167. The method of claim 166, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

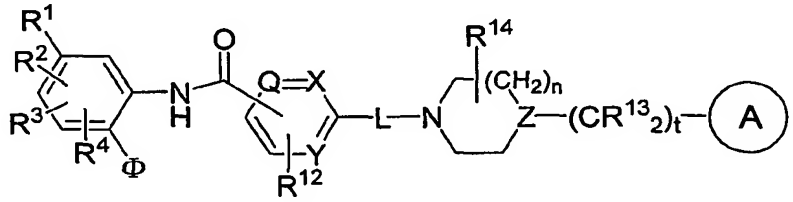
168. The method of claim 163, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

169. The method of claim 163, wherein said cell proliferative disease is cancer.

170. The method of claim 169, wherein said cancer is a solid tumor cancer.

171. The method of claim 170, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

172. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

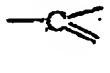
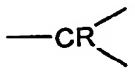
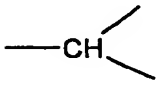
Φ is $-NH_2$ or -OH;

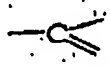
R^1 is H or as defined in claim 1;

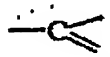
R^2, R^3, and R^4 are as defined in claim 1;

n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

t is 0, 1, 2, 3 or 4 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

Z is nitrogen or  ;

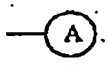
R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7-alkyl-arylsulfanyl, C_1-C_7-alkyl-arylsulfinyl, C_1-C_7-alkyl-arylsulfonyl, C_1-C_7-alkyl-arylaminosulfonyl, C_1-C_7-alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

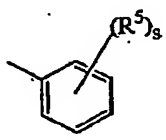
R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

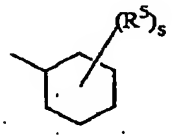
-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkyloxy, amino, carbonyl or aminocarbonyl;

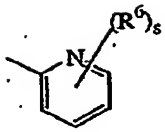
each R^{13} independently represents a hydrogen atom and one hydrogen atom can be replaced by a substituent selected from aryl;

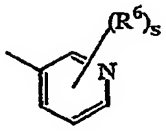
R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;


is a radical selected from


(a-1)


(a-2)


(a-3)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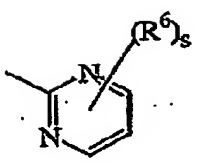
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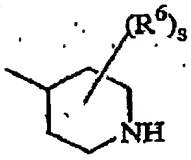
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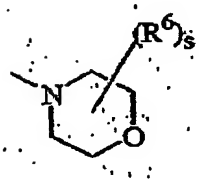
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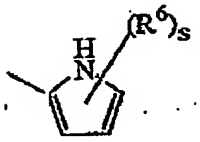
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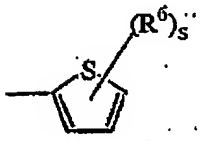
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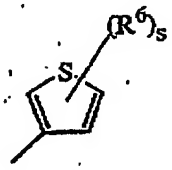
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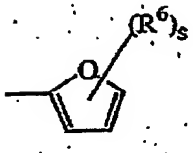
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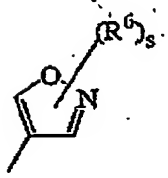
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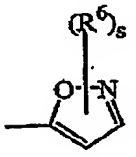
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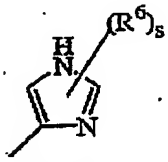
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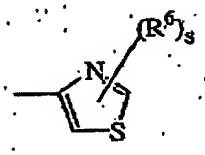
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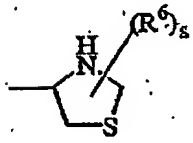
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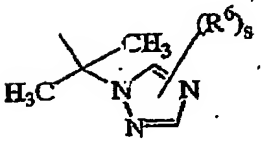
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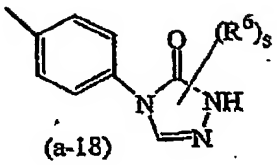
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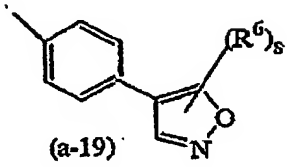
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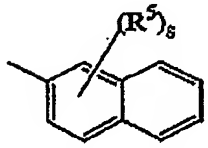
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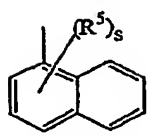
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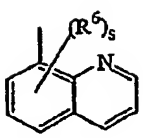
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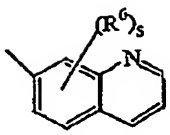
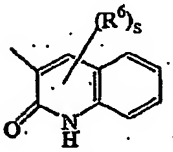

(a-23)


(a-24)


(a-25)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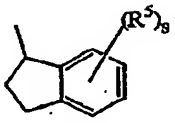
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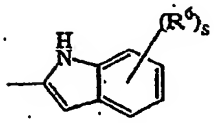
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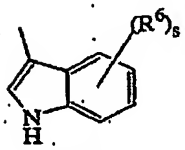
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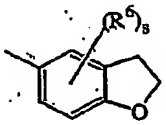
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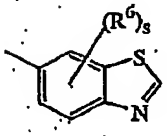
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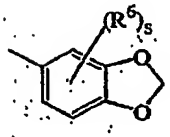
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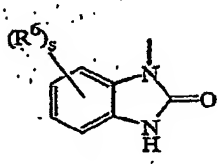
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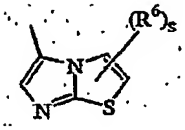
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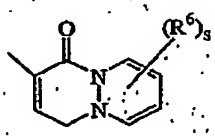
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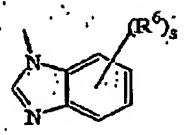
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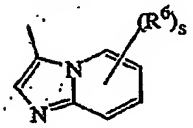
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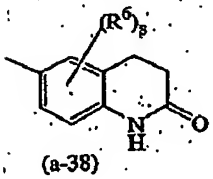
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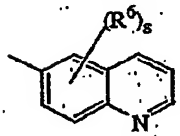
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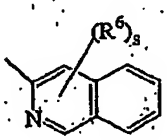
(a-40)


(a-41)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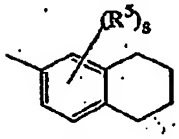
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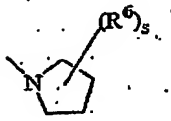
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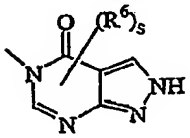
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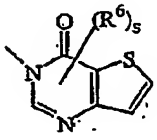
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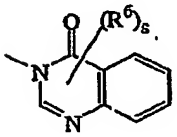
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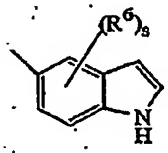
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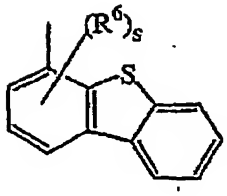

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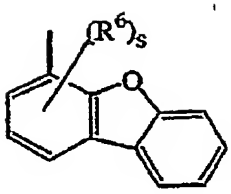

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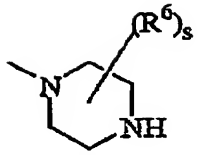


(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino;

di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl;

hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl,

C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy,

hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

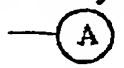
aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

173. The compound of claim 172 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 172 wherein:

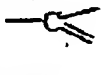
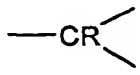
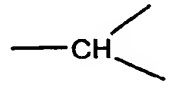
n is 1 or 2;

t is 0, 1, 2 or 4;

Q is  ;

R^2 is hydrogen or nitro;
-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl;
R^4 is hydrogen;

is a radical selected from (a-1),(a-2), (a-3), (a-5), (a-6), (a-11), (a-18), (a-20), (a-21), (a-32), (a-33), (a-47) or (a-51);
each s is independently 0, 1, 2, or 4;
each R^5 and R^6 are independently selected from hydrogen; halo; trihaloC_{1-6}alkyl; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; benzofuranyl; naphtalenylsulfonyl; pyridinyl substituted with aryloxy; phenyl; or phenyl substituted with one substituent independently selected from hydroxyC_{1-4}alkyl or morpholinylC_{1-4}alkyl.

174. The compound of claim 170 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 172 wherein:

n is 1;
t is 0, 1 or 2;
Q is  ,  , or  ;
X is nitrogen;
Y is nitrogen;
R^2 is hydrogen;
-L- is a direct bond;
each R^3 independently represents a hydrogen atom;
R^4 is hydrogen;

is a radical selected from (a-6), (a-11), (a-20), (a-47) or (a-51);
each s is independently 0, 1, or 4;
each R^5 and R^6 are independently selected from hydrogen; C_{1-6}alkyl; C_{1-6}alkyloxy; naphtalenylsulfonyl; or phenyl substituted with hydroxyC_{1-4}alkyl or morpholinylC_{1-4}alkyl.

175. The compound of claim 172 wherein L is a direct bond.

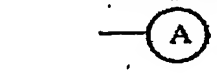
176. The compound of claim 172 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 172 wherein :

t is 1, 2, 3, or 4;

R^2 is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkanediyloxy, amino or carbonyl;

R^4 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

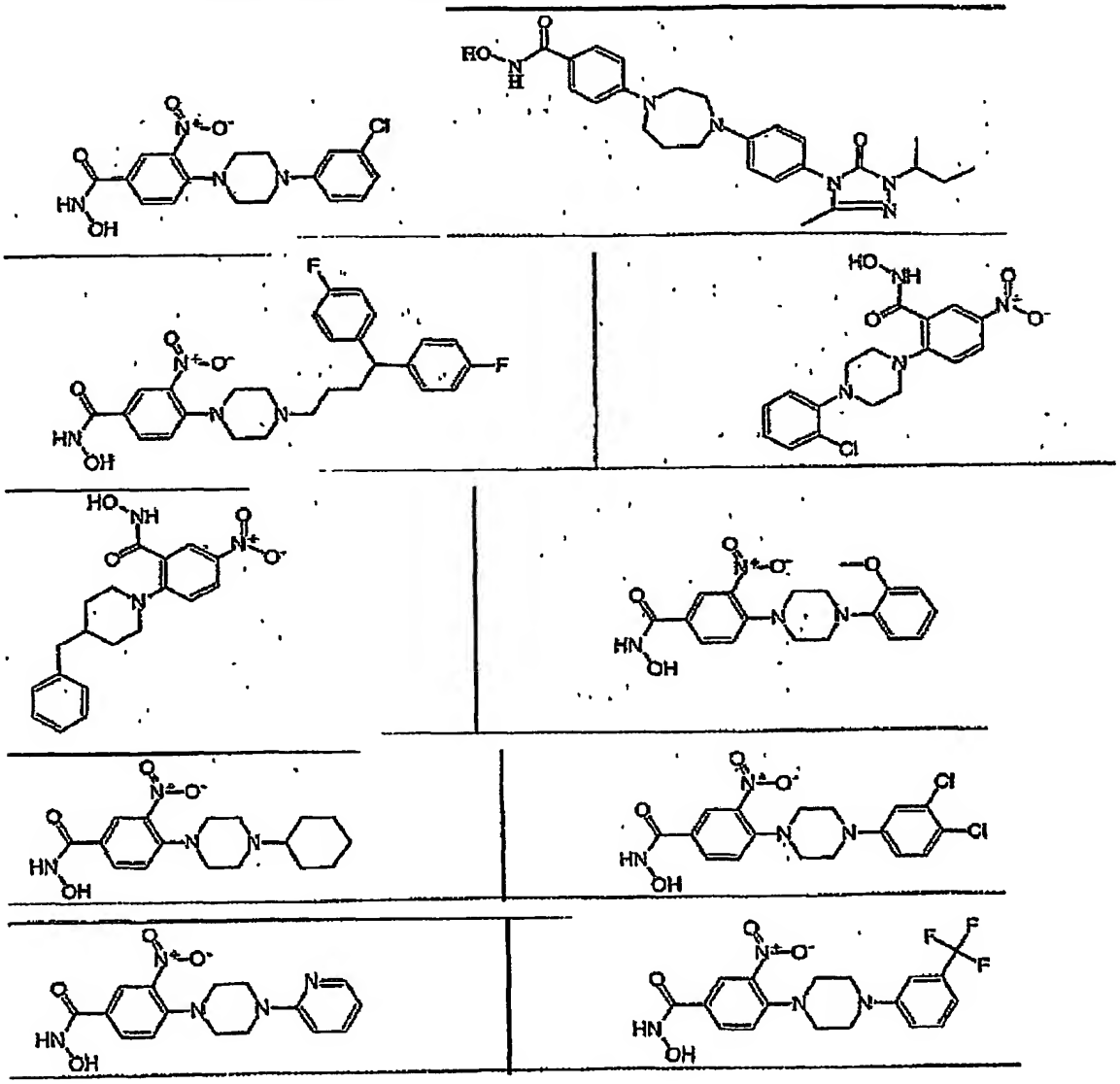

is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) and (a-51);

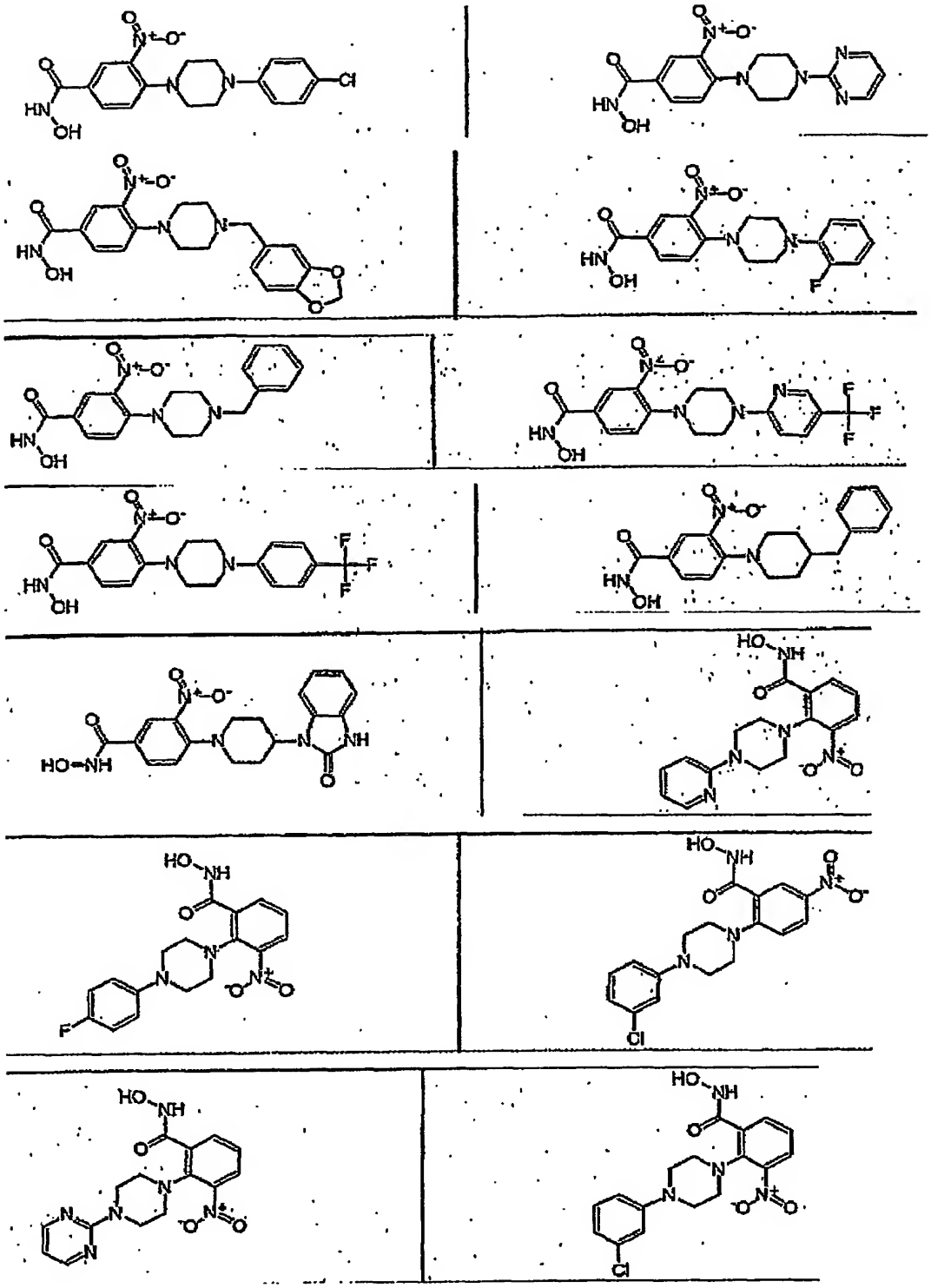
each s is independently 0, 1, 2, 3 or 4;

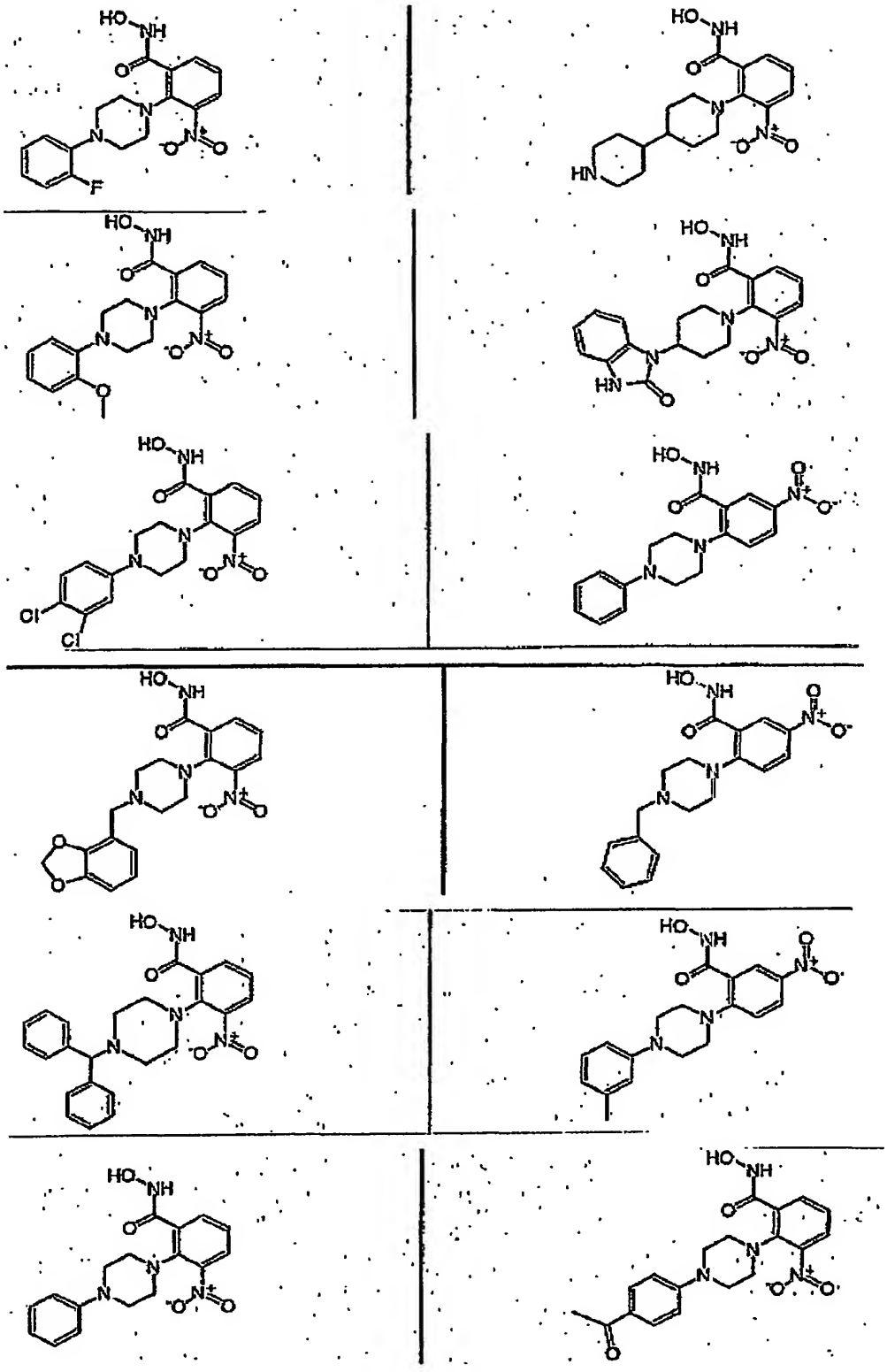
R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

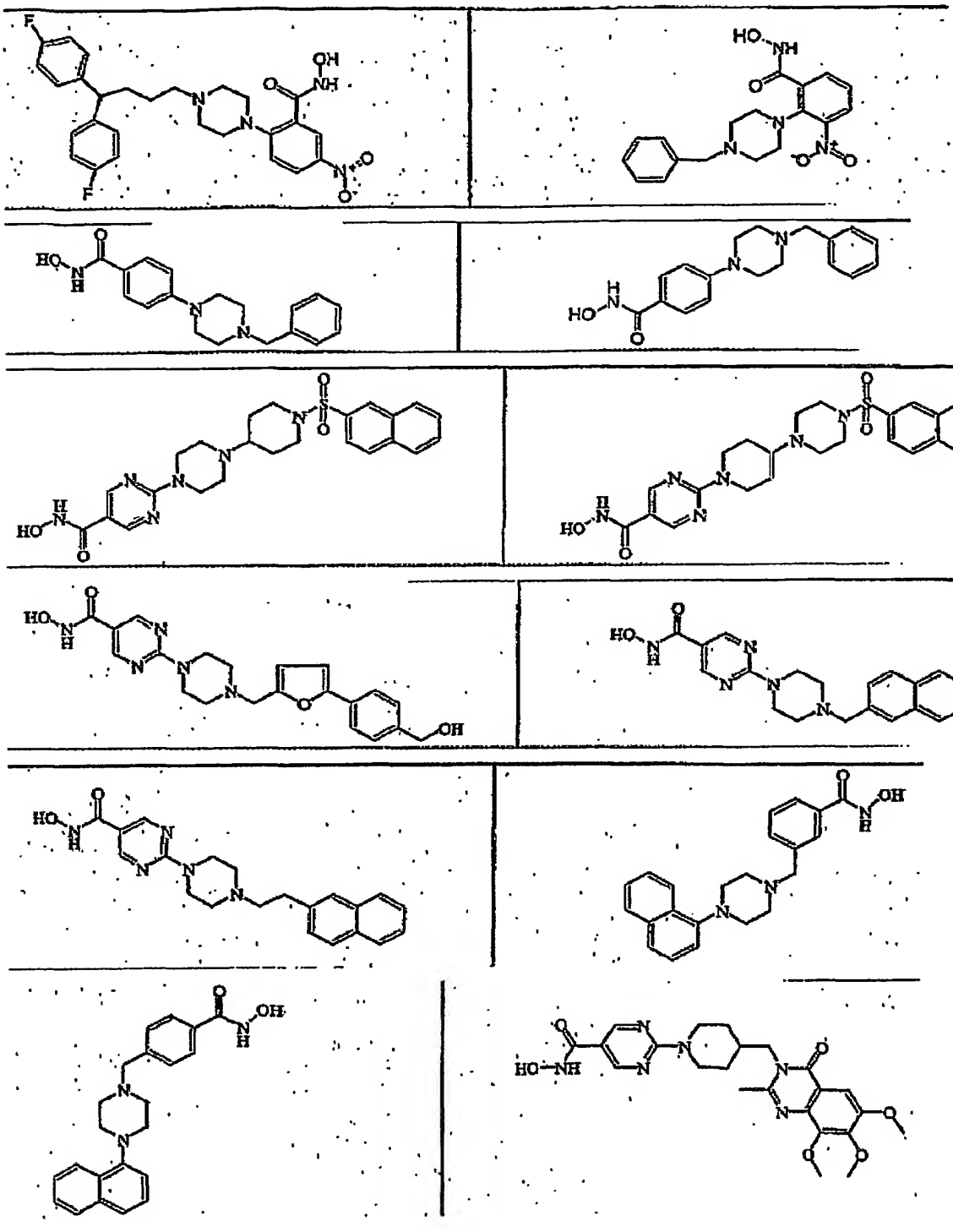
R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

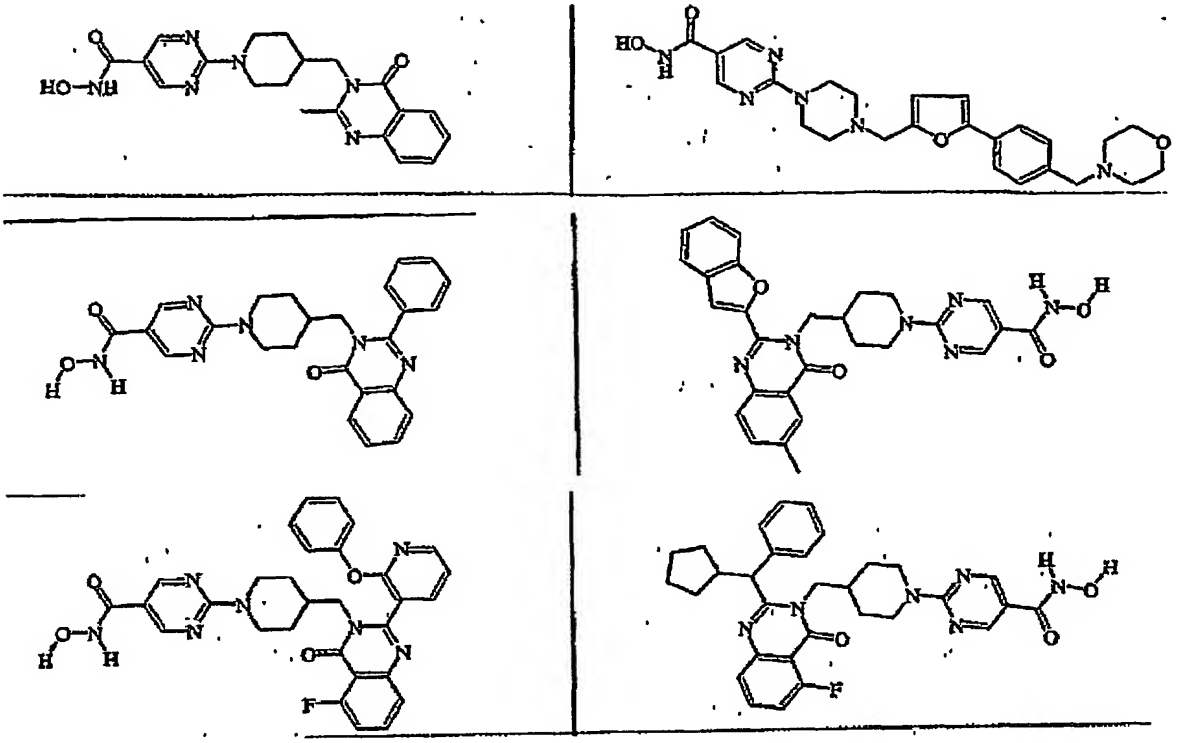
177. The compound of claim 172 that is selected from one of



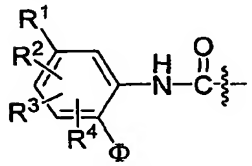








wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

178. The compound of claim 172 wherein R^1, R^2, R^3, and R^4 are all H.

179. A compound according to claim 172 for use in inhibting histone deacetylase.

180. A compound according to calim 172 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

181. The compound of claim 180, wherein said treatment is effected by inhibiting histone deacetylase.

182. The compound of calim 180, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

183. The compound of claim 180, wherein said cell proliferative disease is cancer.

184. The compound of claim 183, wherein said cancer is a solid tumor cancer.

185. The compound of claim 183, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

186. A pharmaceutical composition comprising a compound according to claim 172 and a pharmaceutically acceptable carrier.

187. The pharmaceutical composition of claim 186 further comprising a nucleic acid level inhibitor of histone deacetylase.

188. The pharmaceutical composition of claim 187, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

189. The pharmaceutical composition of claim 188, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:l, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

190. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 172.

191. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 186.

192. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 187.

193. The method of claim 191, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

194. The method of claim 191, wherein said cell proliferative disease is cancer.

195. The method of claim 194, wherein said cancer is a solid tumor cancer.

196. The method of claim 195, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

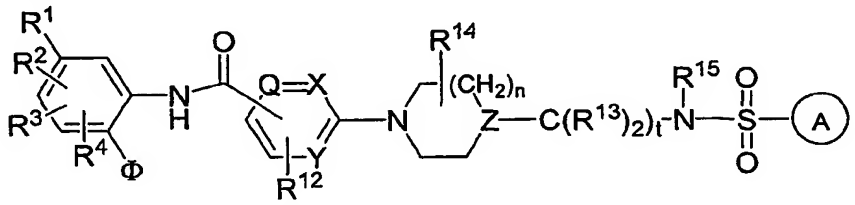
197. The method of claim 192, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

198. The method of claim 192, wherein said cell proliferative disease is cancer.

199. The method of claim 198, wherein said cancer is a solid tumor cancer.

200. The method of claim 199, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

201. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

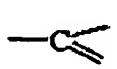
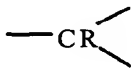
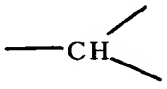
Φ is $-NH_2$ or -OH;

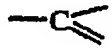
R^1 is H or as defined in claim 1;

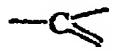
R^2, R^3, and R^4 are as defined in claim 1;

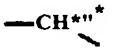
n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

t is 0, 1, 2, 3 or 4 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

Z is nitrogen or  ;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_r C_7-akyl, haloalkyl, CrC $_7$-alkenyl, C_r C_7-alkynyl, C_r C_7-acyl, Ci-C_7-alkyl-aryloxy, Ci-C_7-alkyl-arylsulfanyl, **Ci-Cy-alkyl-arylsulf inyl**, CrC $_7$-alkyl-arylsulfonyl, C_r C_7-alkyl-

arylaminosulfonyl, C_1-C_7-alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

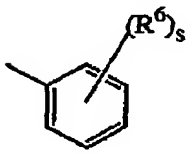
each R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

each R^{13} independently represents a hydrogen atom and one hydrogen atom can be replaced by a substituent selected from aryl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^{15} is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl or aryl;

is a radical selected from



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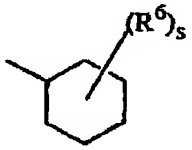

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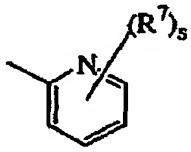

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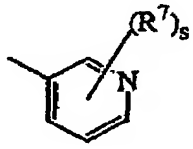

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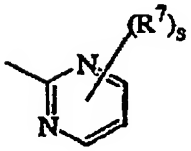

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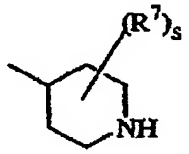

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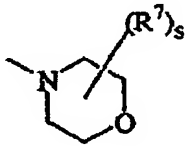

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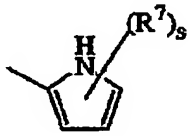

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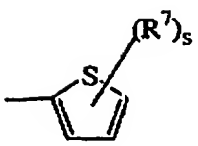

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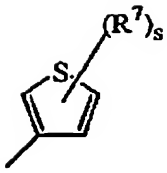

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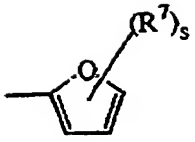

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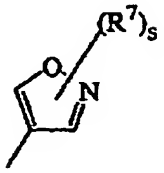

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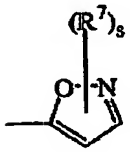

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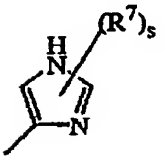

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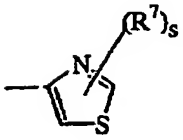

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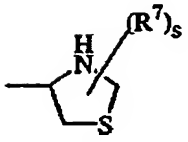

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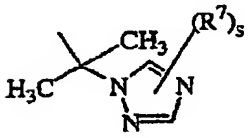

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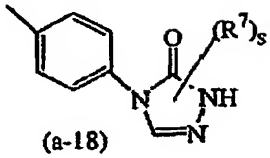

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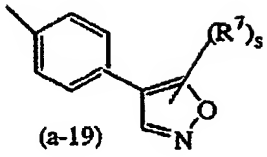

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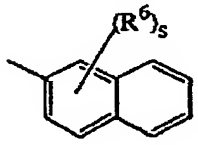

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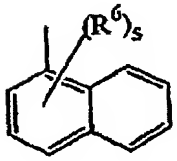

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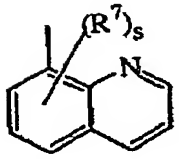

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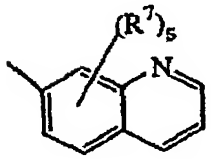

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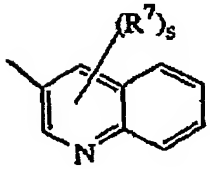

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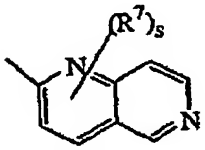

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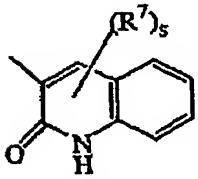

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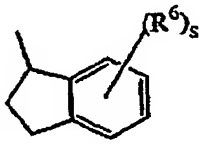

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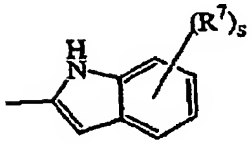

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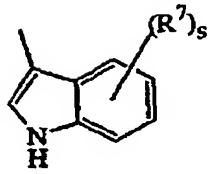
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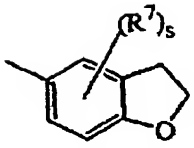
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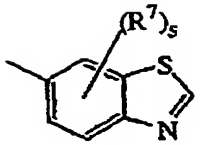
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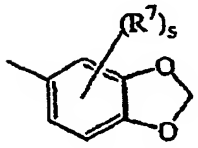
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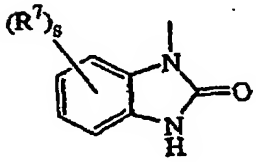
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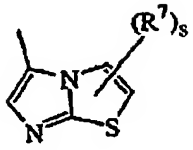
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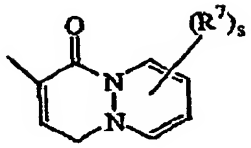
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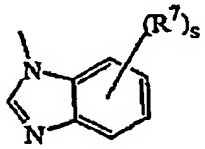
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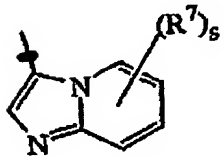
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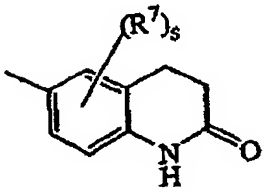
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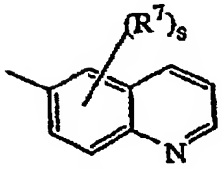
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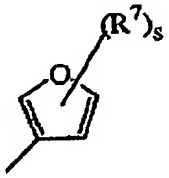
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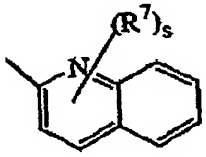
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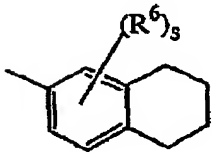
(a-42)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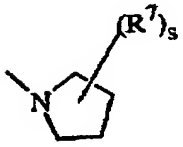
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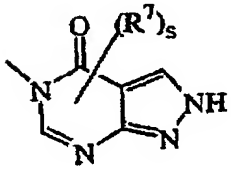
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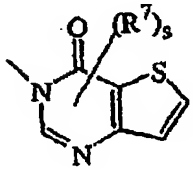
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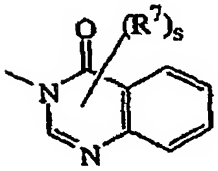
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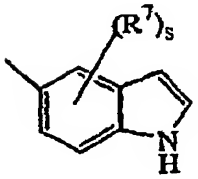
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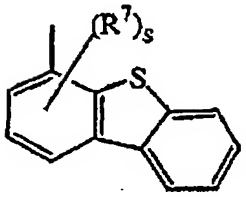

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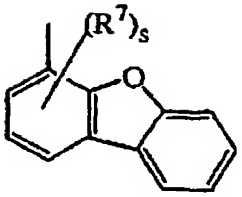

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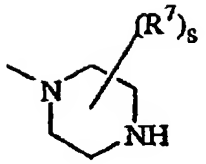


(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl;

thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl,

hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl,
hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl,
di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl,
C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl,
hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl;
furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl;
oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl;
pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl;
morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino;
morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl;
C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl;
naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl;

C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl,

di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl,

(hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy, hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

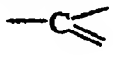
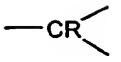
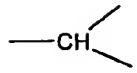
each R^6 and R^7 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

202. The compound of claim 201 wherein each of R^2, R^3, R^4 and R^5 corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in claim 201 wherein:

n is 0, 1 or 2;

t is 0, 1, 2 or 3;

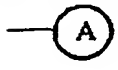
Q is  ,  , or  ;

R^2 is hydrogen, C_{1-6}alkyl or naphtalenylsulfonylpyrazinyl;

each R^3 independently represents a hydrogen atom;

R^4 is hydrogen, hydroxy, hydroxyC_{1-6}alkyl or C_{1-6}alkyloxy;

R^5 is hydrogen, C_{1-6}alkyl, hydroxyC_{1-6}alkyl or C_{1-6}alkyloxyC_{1-6}alkyl;

 is a radical selected from (a-1), (a-7) or (a-20);

each s is independently 0 or 1;

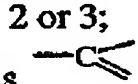
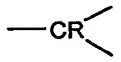
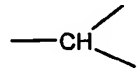
each R^6 is independently selected from hydrogen; thiophenyl; furanyl; benzofuranyl; phenyl; or phenyl substituted with one substituents independently selected from C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, C_{1-4}alkylsulfonyl or di(C_{1-4}alkyl)amino;

each R^7 is independently selected from hydrogen.

203. The compound of claim 201 wherein each of R^2, R^3, R^4 and R^5 corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, claim 201 wherein:

n is 1 or 2;

t is 0, 1, 2 or 3;

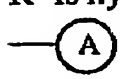
Q is  ,  , or  ;

R^2 is hydrogen or C_{1-6}alkyl;

each R^3 independently represents a hydrogen atom;

R^4 is hydrogen;

R^5 is hydrogen or C_{1-6}alkyloxyC_{1-6}alkyl;

 is a radical selected from (a-1) or (a-20);

each s is independently 0 or 1;

each R^6 is independently selected from hydrogen; thiophenyl; furanyl; benzofuranyl; phenyl; or phenyl substituted with one substituents independently selected from C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl or di(C_{1-4}alkyl)amino.

204. The compound of claim 201 wherein R^{12} is H.

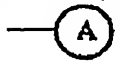
205. The compound of claim 201 wherein each of R^2, R^3, R^4 and R^5 corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in claim 201 wherein:

t is 0;

R^2 is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

R^4 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^5 is hydrogen



is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

R^7 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl;

C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

206. The compound of claim 201 wherein each of R^2, R^3, R^4 and R^5 corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in claim 201 wherein:

i) R^5 is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;


is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42) (a-43) or (a-44);

l) each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; arylC_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl;

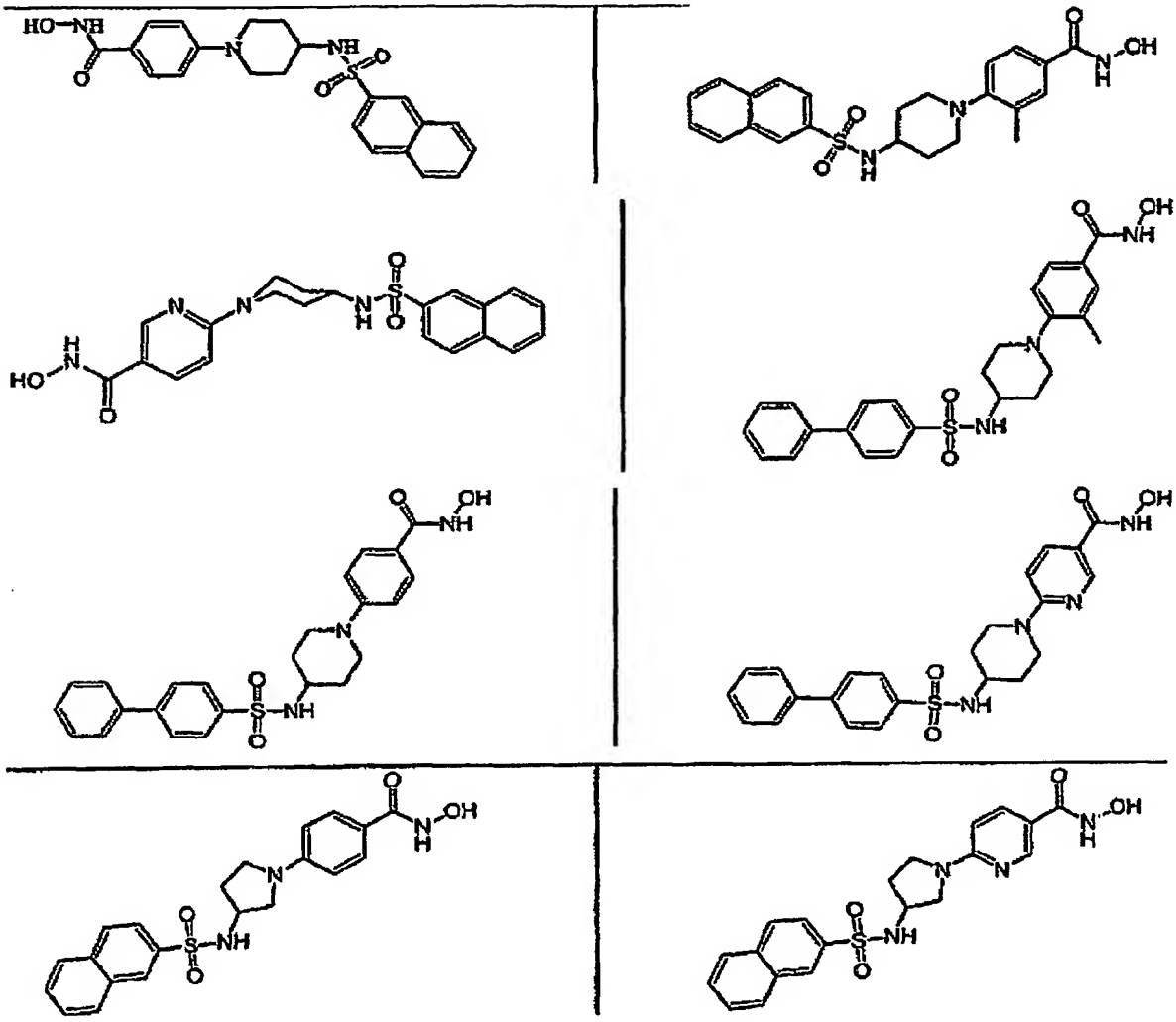
imidazolyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl;

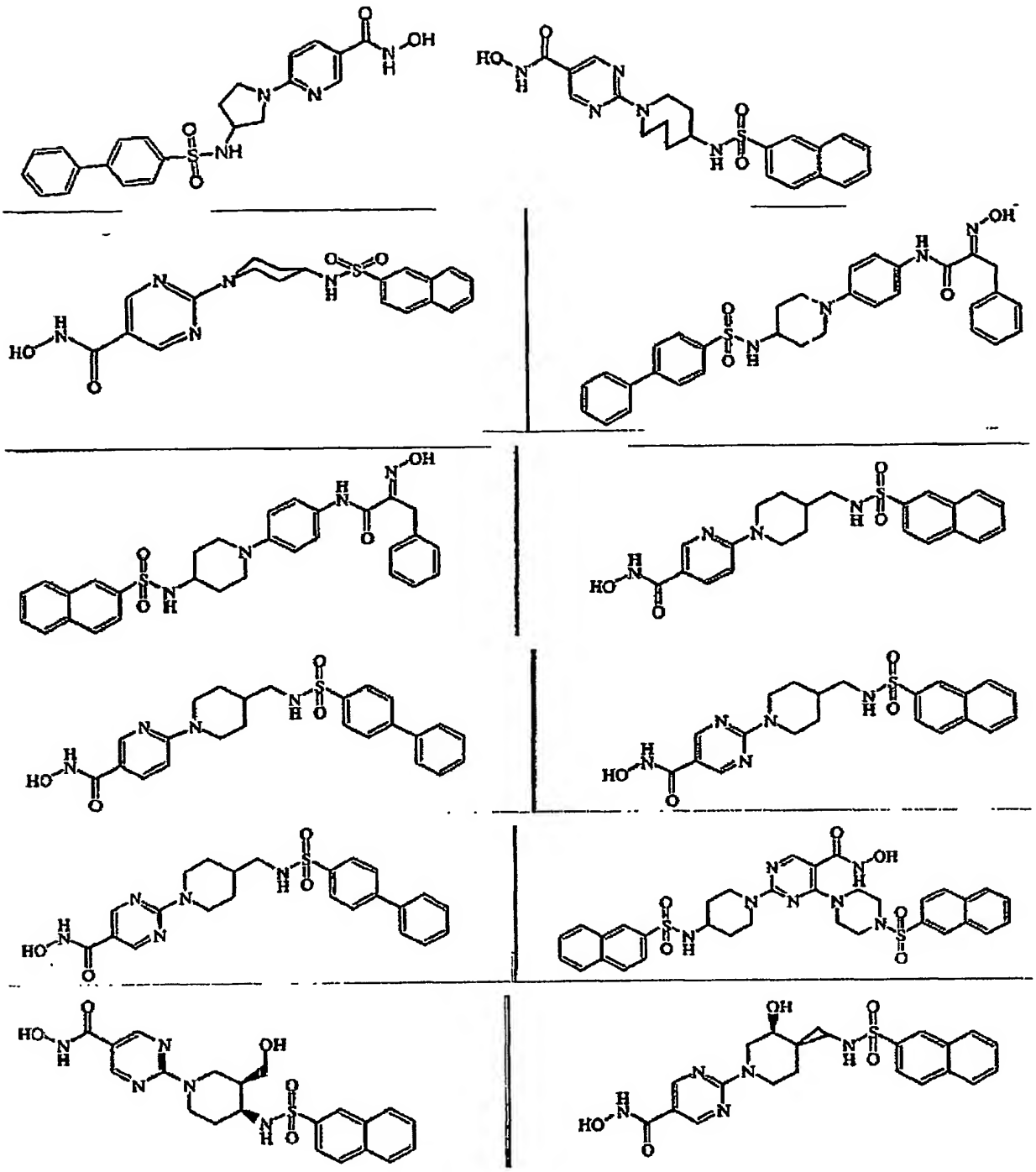
(hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkyloxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl,

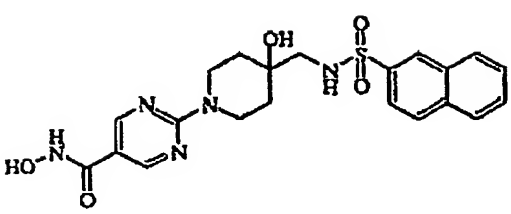
hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy,

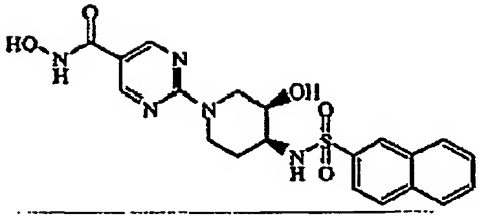
C_{1-4}alkylpiperazinylC_{1-4}alkyl,
hydroxyC_{1-4}alkylamino, di(hydroxyC_{1-4}alkyl)amino,
di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl,
aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino.

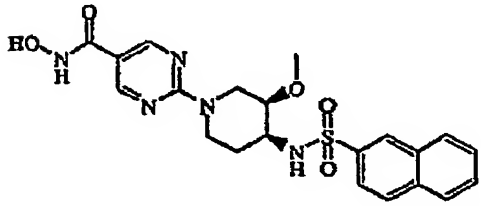
207. The compound of claim 201 that is selected from one of

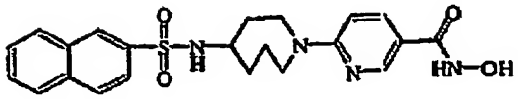


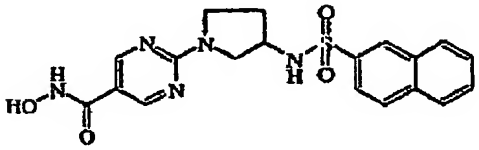


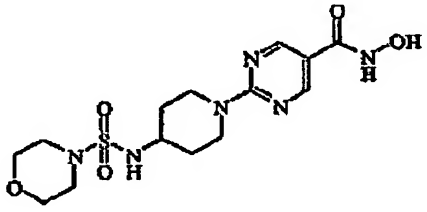


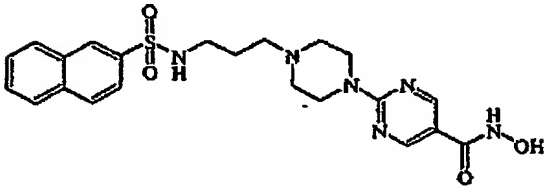


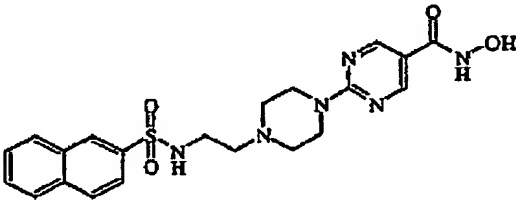


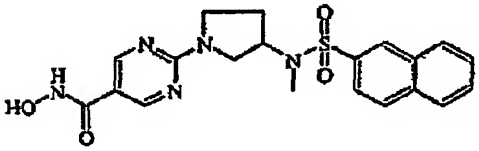


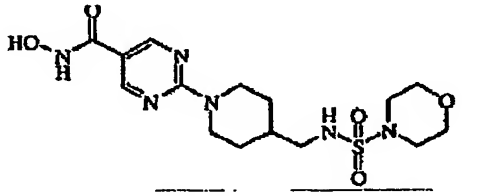


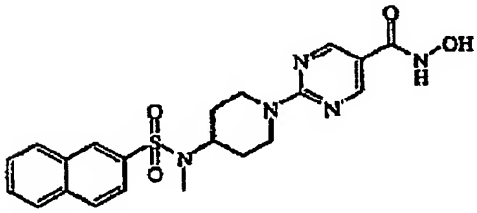


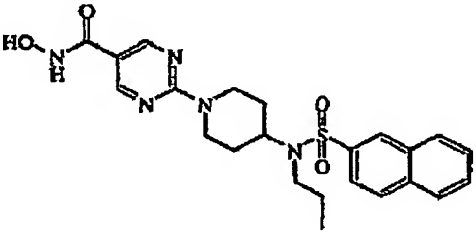


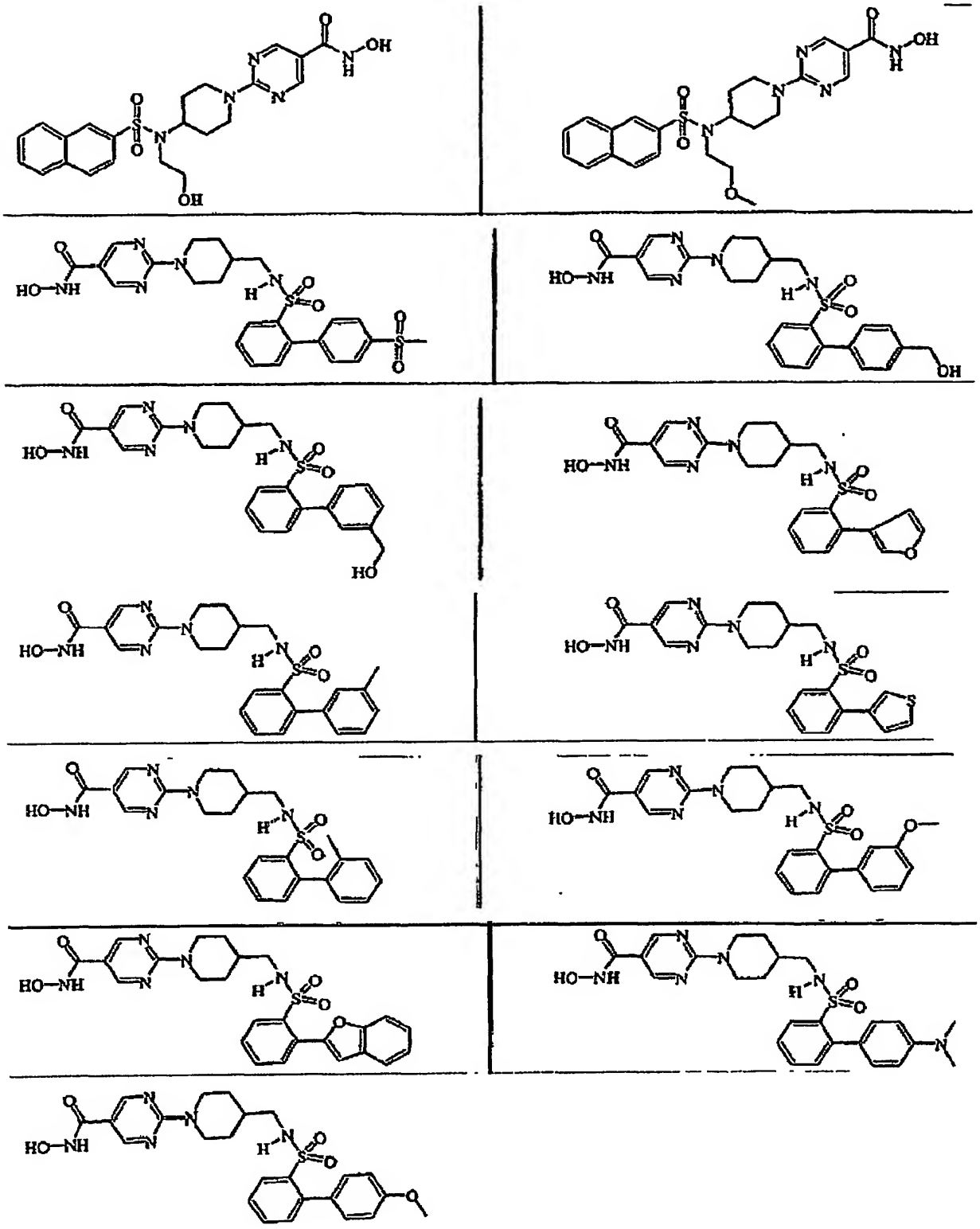




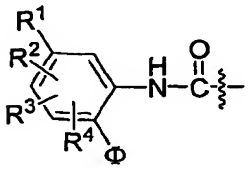








wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

208. A compound according to claim 201 for use in inhibting histone deacetylase.

209. A compound according to calim 201 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

210. The compound of claim 209, wherein said treatment is effected by inhibiting histone deacetylase.

211. The compound of calim 209, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

212. The compound of claim 209, wherein said cell proliferative disease is cancer.

213. The compound of claim 212, wherein said cancer is a solid tumor cancer.

214. The compound of claim 212, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

215. A pharmaceutical composition comprising a compound according to claim 201 and a pharmaceutically acceptable carrier.

216. The pharmaceutical composition of claim 215 further comprising a nucleic acid level inhibitor of histone deacetylase.

217. The pharmaceutical composition of claim 216, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

218. The pharmaceutical composition of claim 217, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:l, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

219. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 201.

220. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 215.

221. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 216.

222. The method of claim 220, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

223. The method of claim 220, wherein said cell proliferative disease is cancer.

224. The method of claim 223, wherein said cancer is a solid tumor cancer.

225. The method of claim 224, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

226. The method of claim 221, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

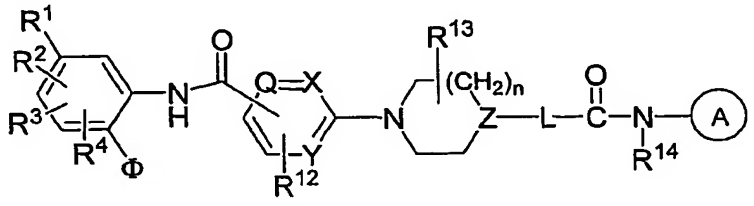
227. The method of claim 221, wherein said cell proliferative disease is cancer.

228. The method of claim 227, wherein said cancer is a solid tumor cancer.

229. The method of claim 228, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

230. The compound of claim 201 wherein R^2, R^3, and R^4 are all H.

231. A compound of the formula:



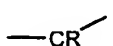
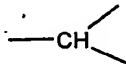
or a pharmaceutically acceptable salt thereof, wherein

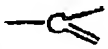
Φ is $-NH_2$ or -OH;

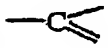
R^1 is H or as defined in claim 1;

R^2, R^3, and R^4 are as defined in claim 1;

n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

Q is nitrogen or ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

Z is nitrogen or  ;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7-alkyl-arylsulfanyl, C_1-C_7-alkyl-arylsulfinyl, C_1-C_7-alkyl-arylsulfonyl, C_1-C_7-alkyl-arylaminosulfonyl, C_1-C_7-alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

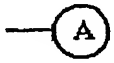
R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

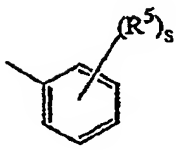
R^{13} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

when Z is equal to nitrogen, then -L- is a direct bond;

when Z is equal to  , then –L- is –NH- or the bivalent radical -C_{1-6}alkanediylNH-;

R^{14} is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl or aryl;

 is a radical selected from



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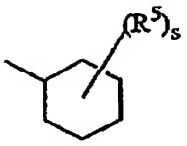

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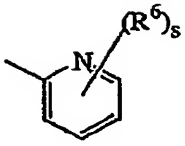

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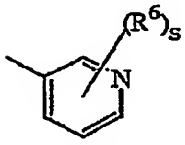

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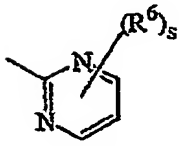

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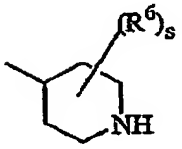

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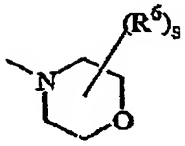

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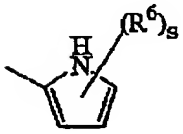

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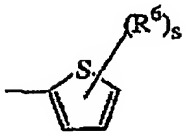

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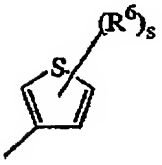

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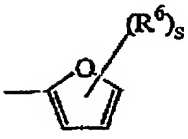

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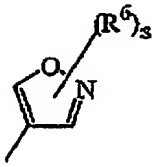

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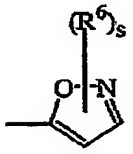

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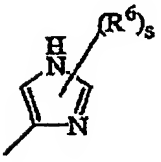

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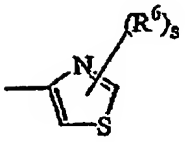

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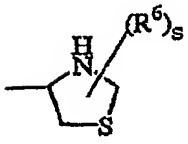

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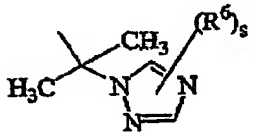

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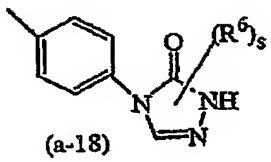

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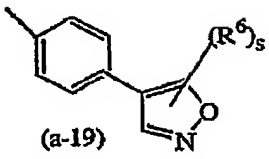

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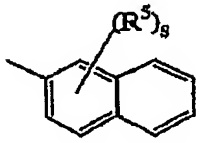

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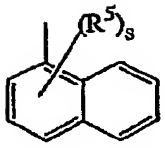

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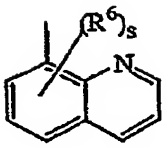

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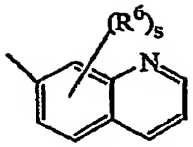

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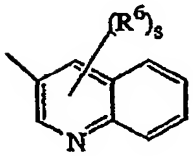

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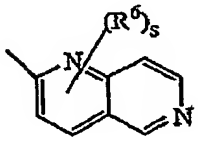

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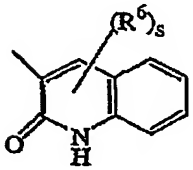

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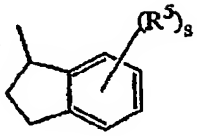
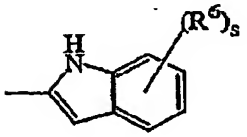
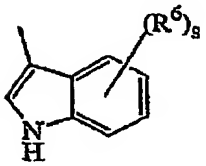


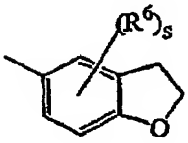
(a-27)



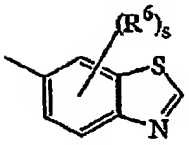
(a-28)



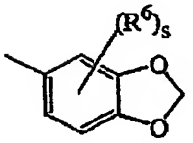
(a-29)



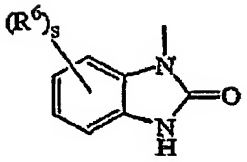
(a-30)



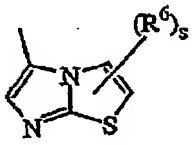
(a-31)



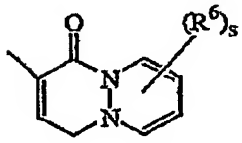
(a-32)



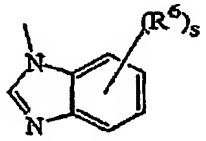
(a-33)



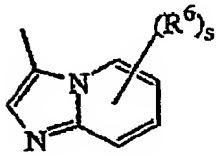
(a-34)



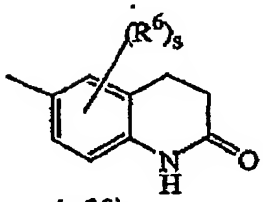
(a-35)



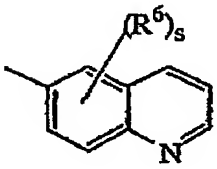
(a-36)



(a-37)

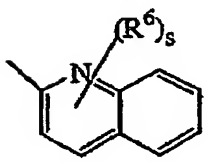


(a-38)

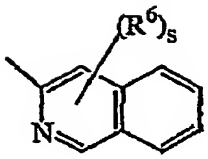


(a-39)

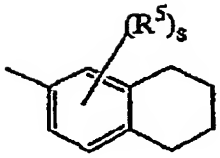
(a-40)



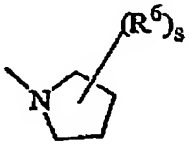
(a-41)



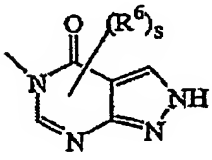
(a-42)



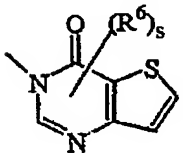
(a-43)



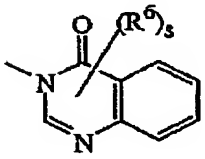
(a-44)



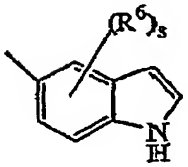
(a-45)



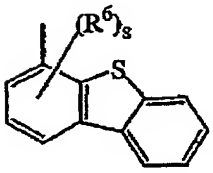
(a-46)



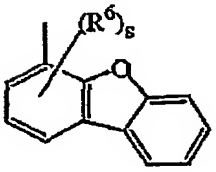
(a-47)



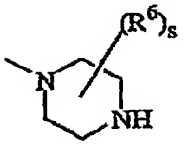
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;
each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl;

di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy;

morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl;

C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonylpiperazinylsulfonyl; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC$_{1-6}$alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl) aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC$_{1-6}$alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC$_{1-6}$alkyl; (C_{1-6}alkyl piperidinyl)(hydroxyC$_{1-6}$alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC$_{1-6}$alkyl)aminoC$_{1-6}$alkylaminoC$_{1-6}$alkyl; hydroxyC$_{1-6}$alkyloxyC$_{1-6}$alkylpiperazinyl; hydroxyC$_{1-6}$alkyloxyC$_{1-6}$alkylpiperazinylC_{1-6}alkyl; (hydroxyC$_{1-6}$alkyl)(C_{1-6}alkyl)amino; (hydroxyC$_{1-6}$alkyl)(C_{1-6}alkyl)aminoC$_{1-6}$alkyl; hydroxyC$_{1-6}$alkylaminoC$_{1-6}$alkyl; di(hydroxyC$_{1-6}$alkyl)aminoC$_{1-6}$alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected fromC_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted withC_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimdinylpiperazinyl; ; tetrahydropyrimdinylpiperazinylC_{1-6}alkyl; quinolinyl; indolyl; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC$_{1-6}$alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC$_{1-6}$alkyloxy,

C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl,

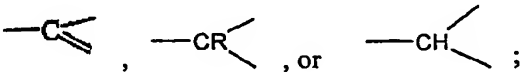
C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy, hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

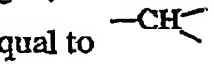
232. The compound of claim 231 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 231 wherein:

n is 1;

Q is  ;

R^2 is hydrogen or nitro;

R^3 is hydrogen;

when Z is equal to  , then –L- is the bivalent radical -C_{1-6}alkanediylNH-;

R^4 is hydrogen, C_{1-6}alkyl or aryl;

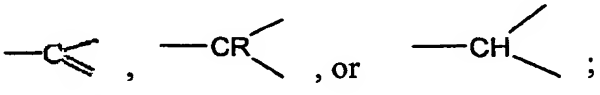
 is a radical selected from (a-1) or (a-21);

each s is independently 0, 1 or 2;

each R^5 is independently selected from hydrogen; halo; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; aryloxy; cyano or phenyl.

233. The compound of claim 231 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 231 wherein:

n is 1;

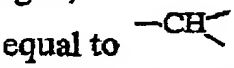
Q is  ;

each X is nitrogen;

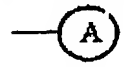
each Y is nitrogen;

R^2 is hydrogen;

R^3 is hydrogen;

when Z is equal to  , then –L- is the bivalent radical -C_{1-6}alkanediylNH-;

R^4 is hydrogen, C_{1-6}alkyl or aryl;

 is the radical (a-1);

each s is independently 0 or 1;

each R^5 is independently selected from hydrogen or phenyl.

234. The compound of claim 231 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 231 wherein:

each Z is N;

R^2 is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

R^3 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^4 is hydrogen;


is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

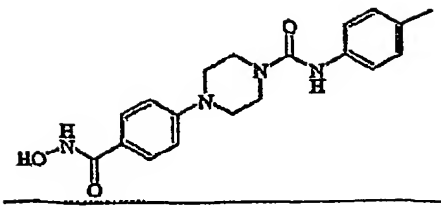
each s is independently 0, 1, 2, 3 or 4;

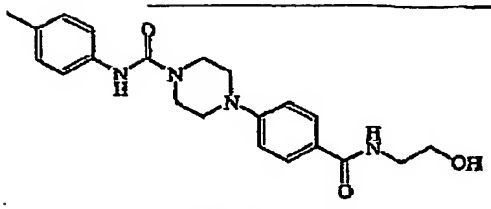
R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl;

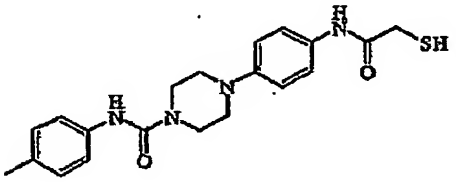
hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazolyl; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

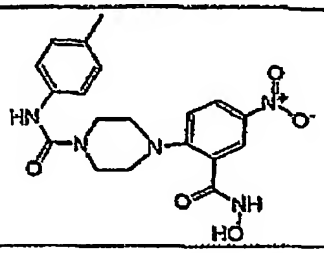
R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

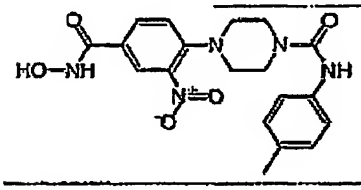
235. The compound of claim 231 that is selected from one of

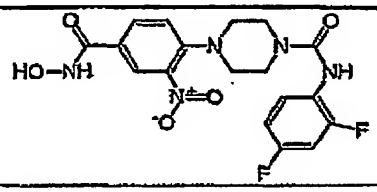


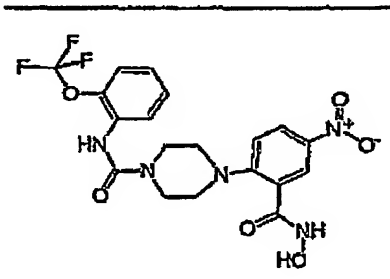


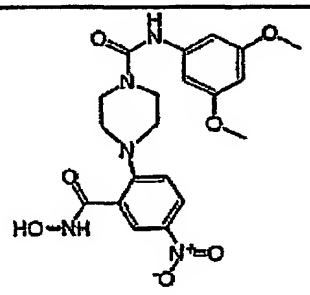


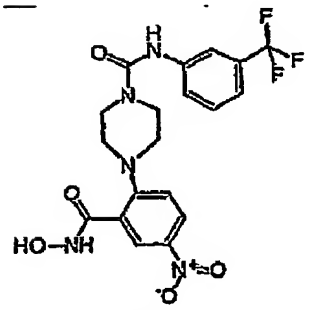


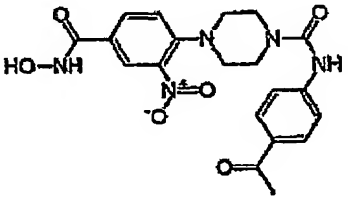


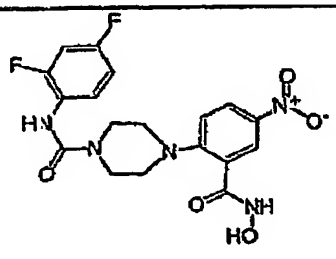


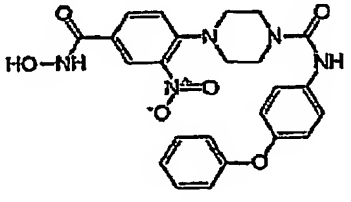


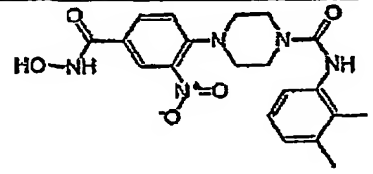
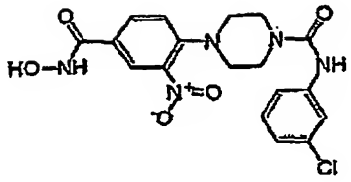
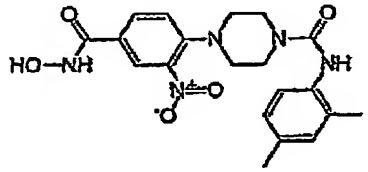
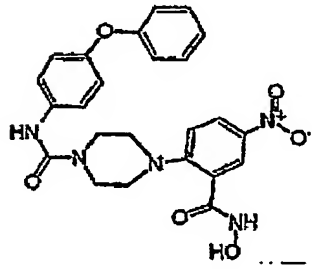
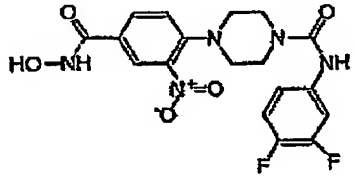
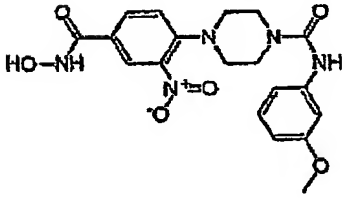
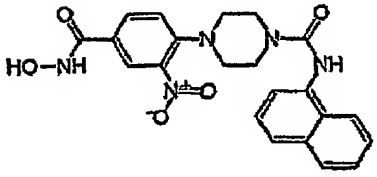
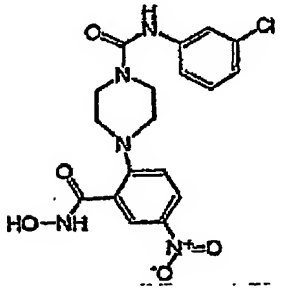
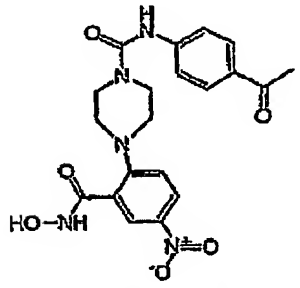
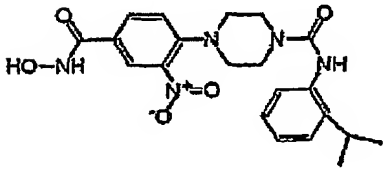
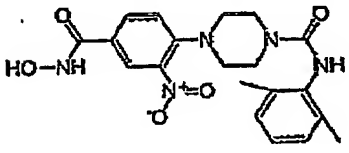
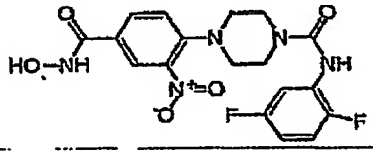


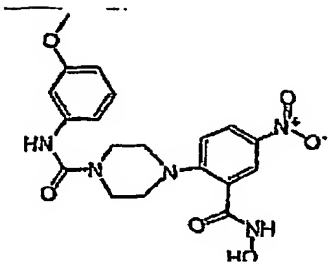


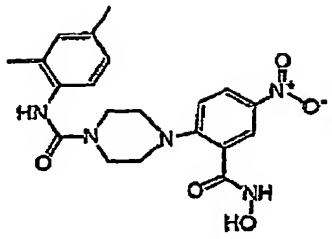


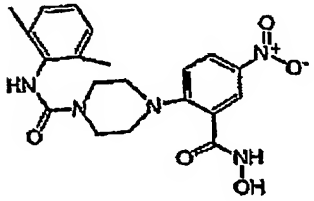


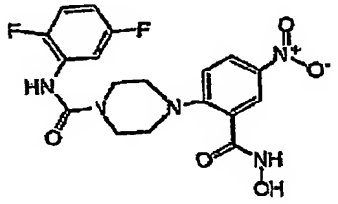


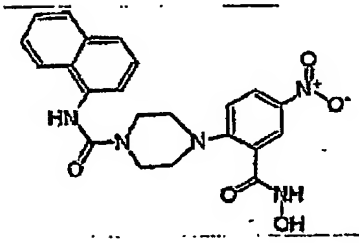
	
	
	
	
	
	

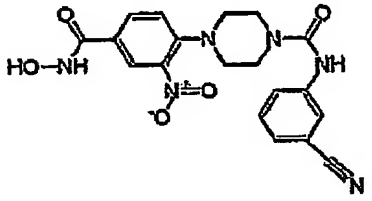


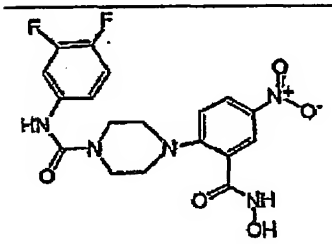


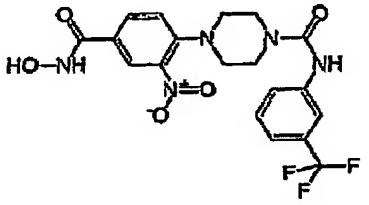


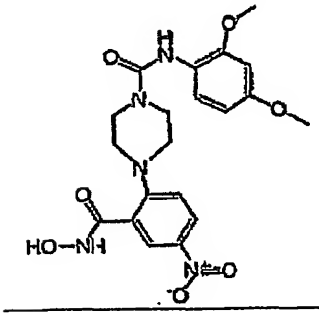


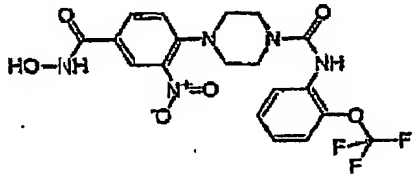


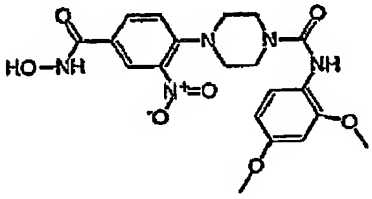


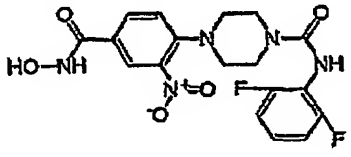


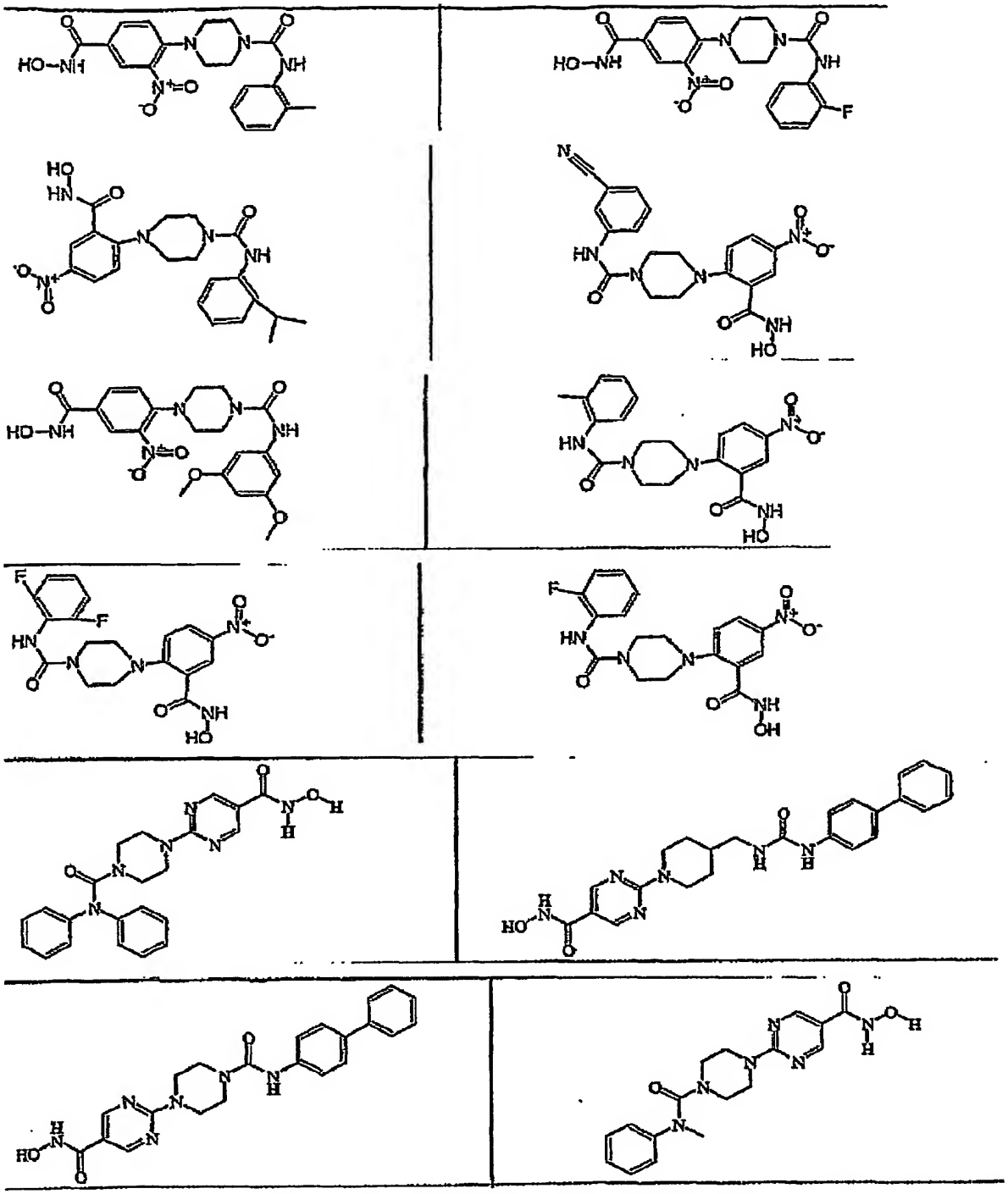




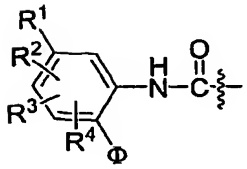








wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

236. The compound of claim 231 wherein R^1, R^2, R^3, and R^4 are all H.

237. A compound according to claim 231 for use in inhibting histone deacetylase.

238. A compound according to calim 231 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

239. The compound of claim 238, wherein said treatment is effected by inhibiting histone deacetylase.

240. The compound of calim 238, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

241. The compound of claim 238, wherein said cell proliferative disease is cancer.

242. The compound of claim 241, wherein said cancer is a solid tumor cancer.

243. The compound of claim 241, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

244. A pharmaceutical composition comprising a compound according to claim 231 and a pharmaceutically acceptable carrier.

245. The pharmaceutical composition of claim 244 further comprising a nucleic acid level inhibitor of histone deacetylase.

246. The pharmaceutical composition of claim 245, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

247. The pharmaceutical composition of claim 246, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:l, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

248. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 231.

249. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 244.

250. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 245.

251. The method of claim 249, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

252. The method of claim 249, wherein said cell proliferative disease is cancer.

253. The method of claim 252, wherein said cancer is a solid tumor cancer.

254. The method of claim 253, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

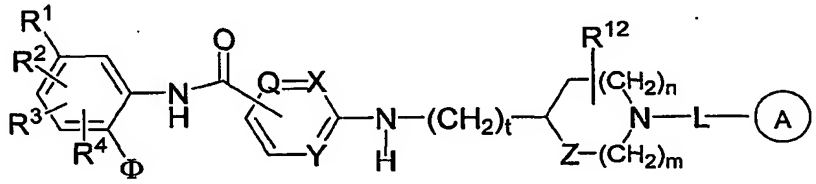
255. The method of claim 250, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

256. The method of claim 250, wherein said cell proliferative disease is cancer.

257. The method of claim 256, wherein said cancer is a solid tumor cancer.

258. The method of claim 257, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

259. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

O is $-NH_2$ or -OH;

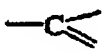
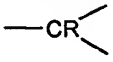
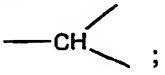
R^1 is H or as defined in claim 1

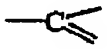
R^2, R^3, and R^4 are as defined in claim 1;

n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

m is 0, 1, 2 or 3 and when m is 0 then a direct bond is intended;

t is 0 or 1 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

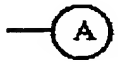
Y is nitrogen or  ;

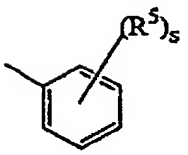
Z is $-CH_2-$ or $-O-$;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

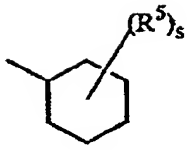
R^{12} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

-L- is a bivalent radical selected from C_{1-6}alkanediyl, carbonyl, sulfonyl, or C_{1-6}alkanediyl substituted with phenyl;

 is a radical selected from



(a-1)



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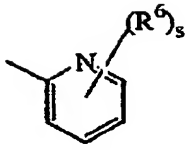

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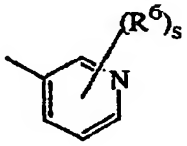

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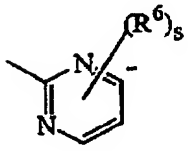

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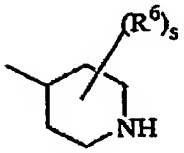

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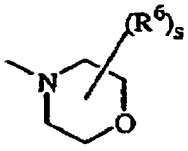

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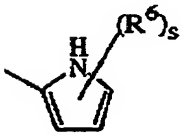

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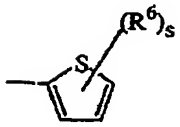

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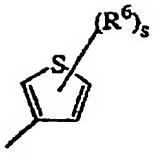

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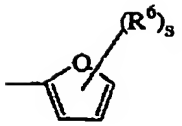

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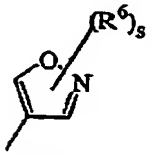

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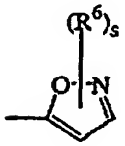

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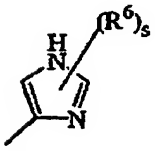

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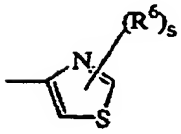

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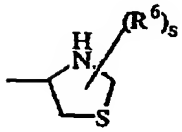

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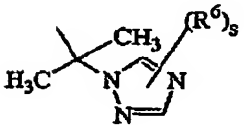

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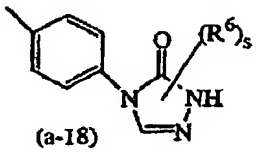

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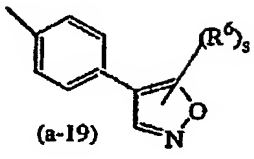

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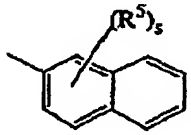

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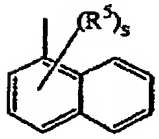

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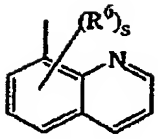

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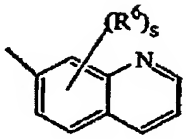

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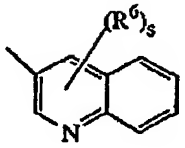

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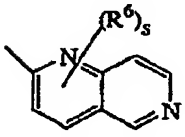

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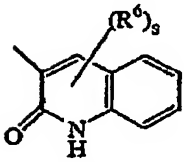

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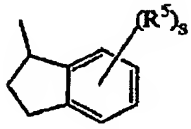

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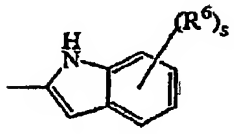

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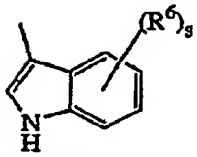

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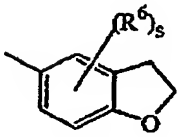

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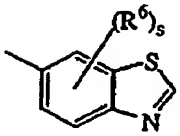

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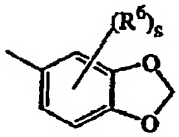

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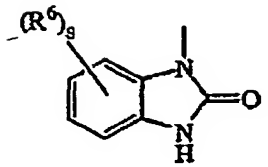
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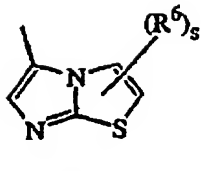
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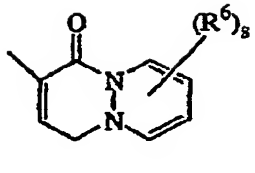
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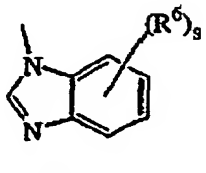
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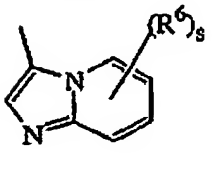
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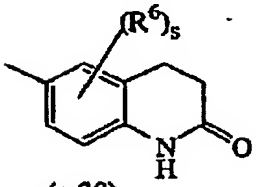
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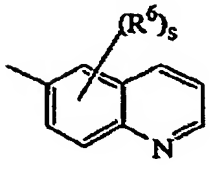
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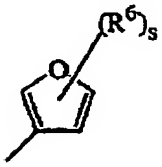
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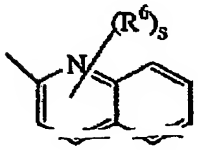
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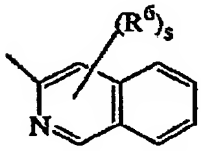
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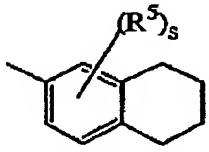
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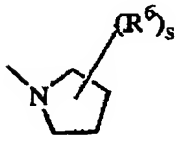
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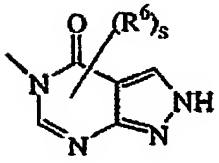
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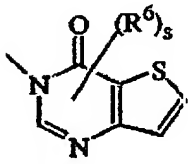
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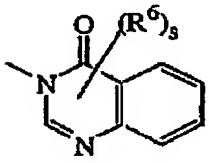
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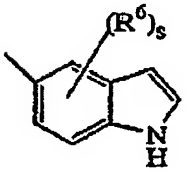
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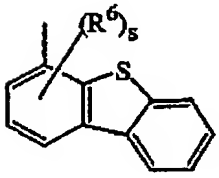
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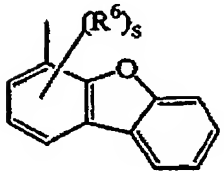
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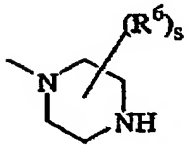

(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl;

hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino;

di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl;

C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino;

C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl;

pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indolyl; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino,

di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy,

hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

260. The compound of claim 259 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 259 wherein:

n is 0, 1 or 2;

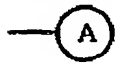
m is 0, 1 or 2;

each Q is  ;

each X is nitrogen;

R^2 is hydrogen;

-L- is a bivalent radical selected from carbonyl, sulfonyl, or C_{1-6}alkanediyl substituted with phenyl;

 is a radical selected from (a-1), (a-20) or (a-43);

each s is independently 0 or 1;

each R^5 is independently selected from hydrogen or phenyl.

261. The compound of claim 259 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 259 wherein:

n is 0, 1 or 2;

m is 1 or 2;

Q is  ;

X is nitrogen;

R^2 is hydrogen;

-L- is a bivalent radical selected from carbonyl or sulfonyl;

 is a radical selected from (a-1) or (a-20);

each s is independently 0 or 1;

each R^5 is independently selected from hydrogen or aryl.

262. The compound of claim 259 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 259 wherein:

t is 0;

R^2 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

-L- is a bivalent radical selected from C_{1-6}alkanediyl, carbonyl or sulfonyl;

—(A) is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

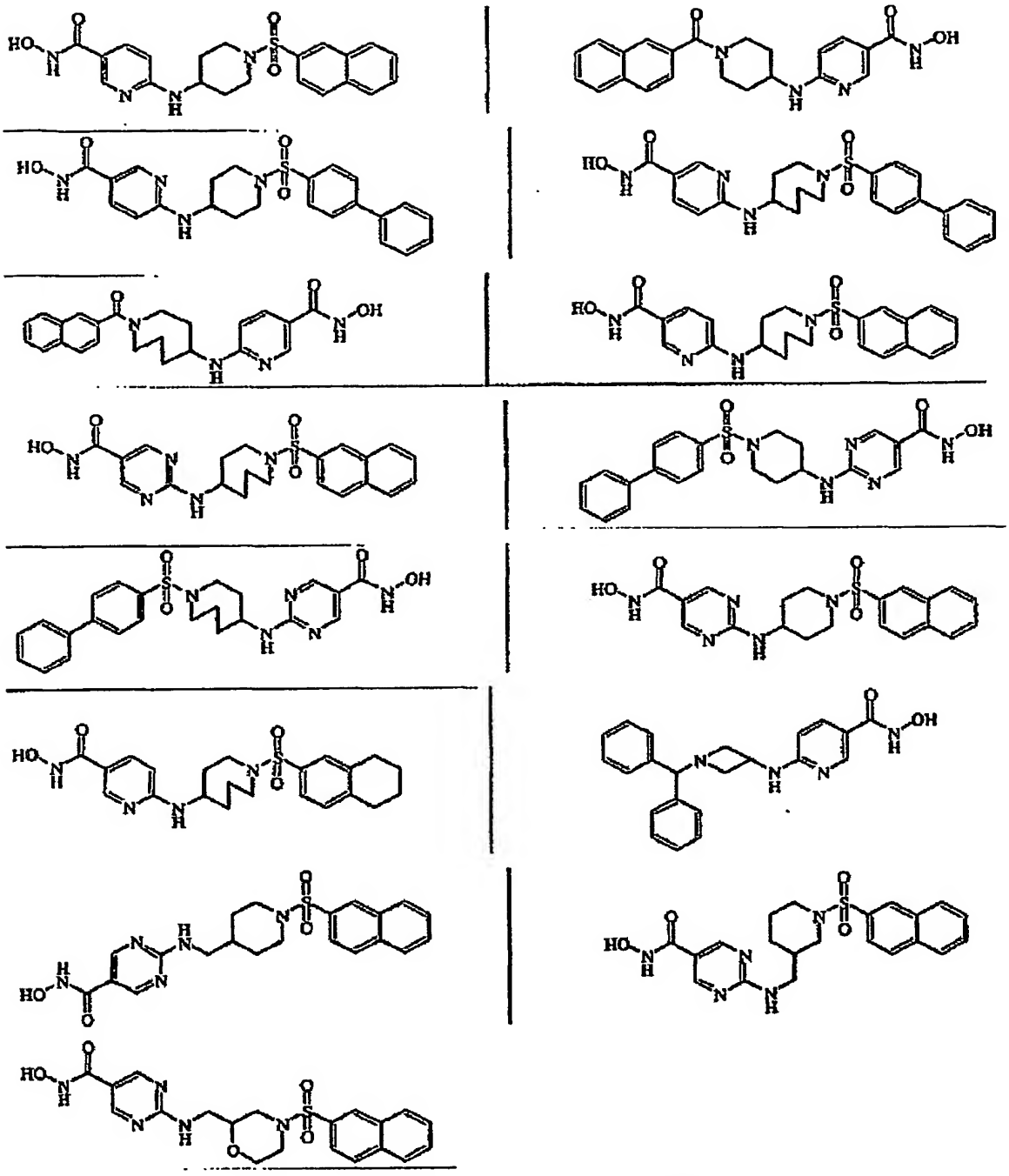
each s is independently 0, 1, 2, 3 or 4;

R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl;

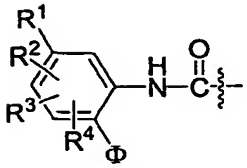
C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

263. The compound of claim 259 that is selected from one of



wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

264. The compound of claim 259 R^1, R^2, R^3, and R^4 are all H.

265. A compound according to claim 259 for use in inhibiting histone deacetylase.

266. A compound according to calim 259 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

267. The compound of claim 266, wherein said treatment is effected by inhibiting histone deacetylase.

268. The compound of calim 266, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

269. The compound of claim 266, wherein said cell proliferative disease is cancer.

270. The compound of claim 269, wherein said cancer is a solid tumor cancer.

271. The compound of claim 269, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

272. A pharmaceutical composition comprising a compound according to claim 259 and a pharmaceutically acceptable carrier.

273. The pharmaceutical composition of claim 272 further comprising a nucleic acid level inhibitor of histone deacetylase.

274. The pharmaceutical composition of claim 273, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

275. The pharmaceutical composition of claim 274, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No: I $_1$ SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

276. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 259.

277. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 272.

278. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 273.

279. The method of claim 277, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

280. The method of claim 277, wherein said cell proliferative disease is cancer.

281. The method of claim 280, wherein said cancer is a solid tumor cancer.

282. The method of claim 281, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

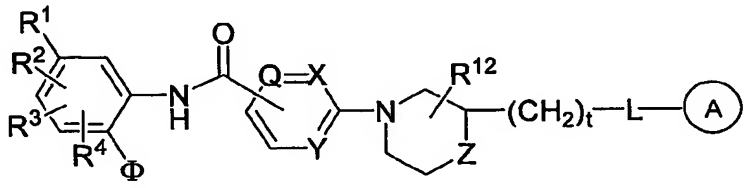
283. The method of claim 278, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

284. The method of claim 278, wherein said cell proliferative disease is cancer.

285. The method of claim 284, wherein said cancer is a solid tumor cancer.

286. The method of claim 285, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

287. A compound of the formula:



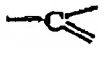
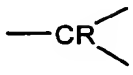
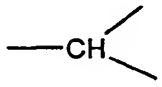
or a pharmaceutically acceptable salt thereof, wherein

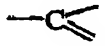
Φ is $-NH_2$ or -OH;

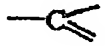
R^1 is H or as defined in claim1;

R^2, R^3, and R^4 are as defined in claim 1;

t is 0, 1, 2, 3 or 4 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

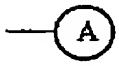
Y is nitrogen or  ;

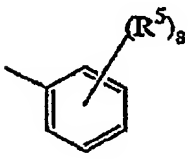
Z is –NH-, –O- or $-CH_2-$;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

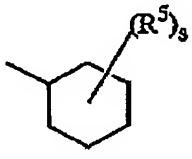
R^{12} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

-L- is a bivalent radical selected from $-NR^9C(O)-$, $-NR^9SO_2-$ or $-NR^9CH_2-$ wherein R^9 is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

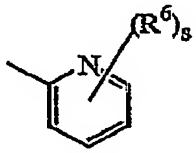
 is a radical selected from



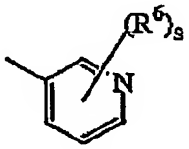
(a-1)



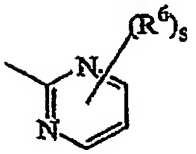
(a-2)



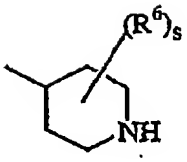
(a-3)



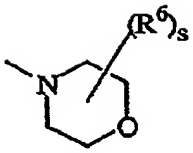
(a-4)



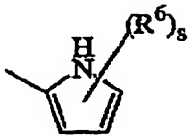
(a-5)



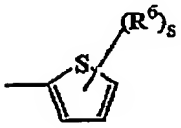
(a-6)



(a-7)



(a-8)



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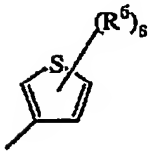

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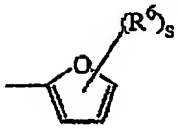

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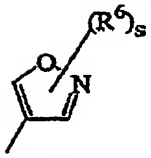

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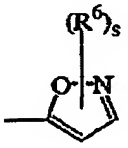

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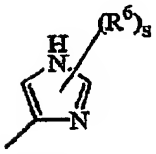

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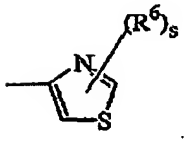

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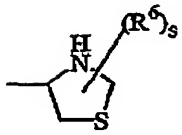

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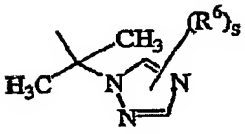

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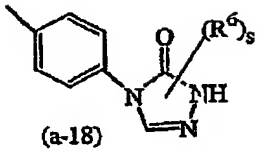

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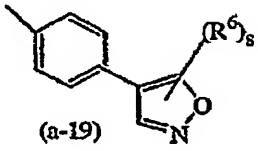

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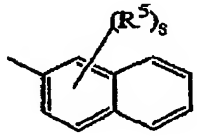

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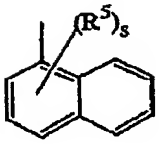

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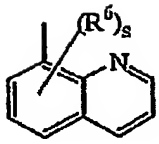

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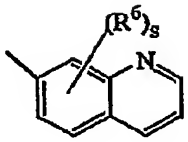

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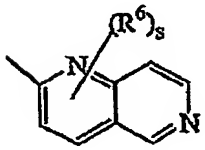
(a-24)



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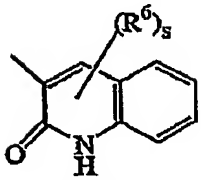

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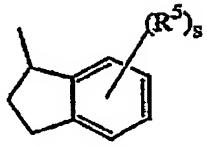

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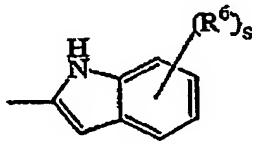

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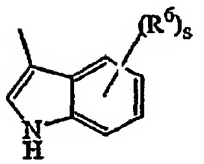
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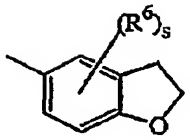
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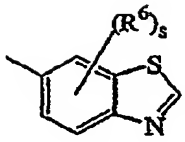
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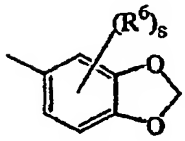
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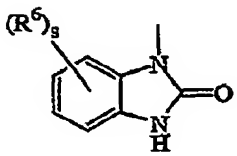
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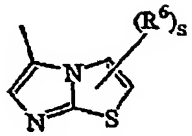
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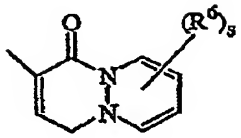
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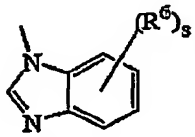
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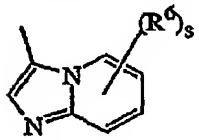
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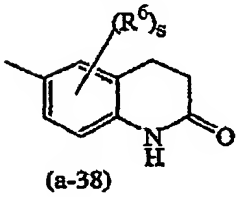
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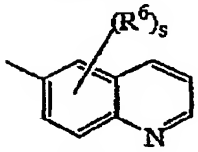
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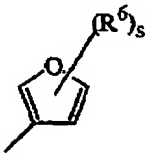
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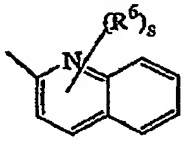
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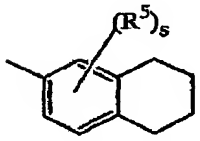
(a-42)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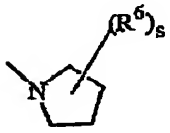
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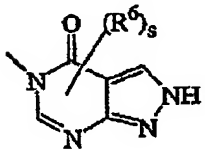
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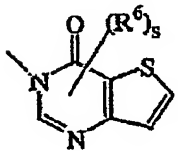
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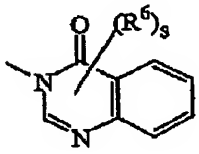
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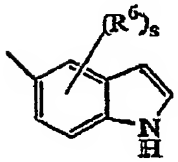
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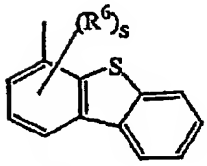
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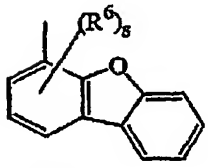
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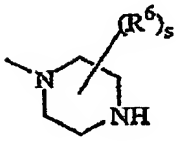

(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro;

trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl: C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl;

di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl,

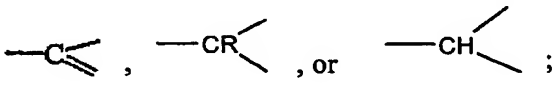
morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy, hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

288. The compound of claim 287 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim287 wherein:

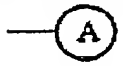
t is 0 or 1;

Q is  ;

X is nitrogen;

R^{12} is hydrogen, hydroxy, C_{1-6}alkyl, or arylC_{1-6}alkyl;

-L- is a bivalent radical selected from –NHC(O)- or -$NHSO_2$-;

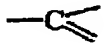
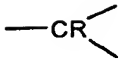
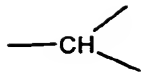
 is a radical selected from (a-1) or (a-20);

each s is independently 0 or 1;

each R^5 is independently selected from hydrogen or phenyl.

289. The compound of claim 287 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim287 wherein:

t is 1;

Q is  ; ,  , or  ;

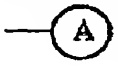
X is nitrogen;

Y is nitrogen;

Z is –O- or –CH_2-;

R^{12} is H;

-L- is a bivalent radical selected from –NHC(O)- or -$NHSO_2$-;

 is a radical selected from (a-1) or (a-20);

each s is independently 0 or 1;

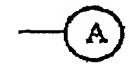
each R^5 is independently selected from hydrogen or phenyl.

290. The compound of claim 287 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 287 wherein:

t is 0;

R^{12} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

-L- is a bivalent radical selected from –NHC(O)- or -$NHSO_2$-;

 is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

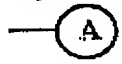
each s is independently 0, 1, 2, 3 or 4;

R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

291. The compound of claim 287 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 287 wherein:

R^3 and R^4 are each independently selected from hydrogen, hydroxy, hydroxyC_{1-6}alkyl, aminoC_{1-6}alkyl or aminoaryl;

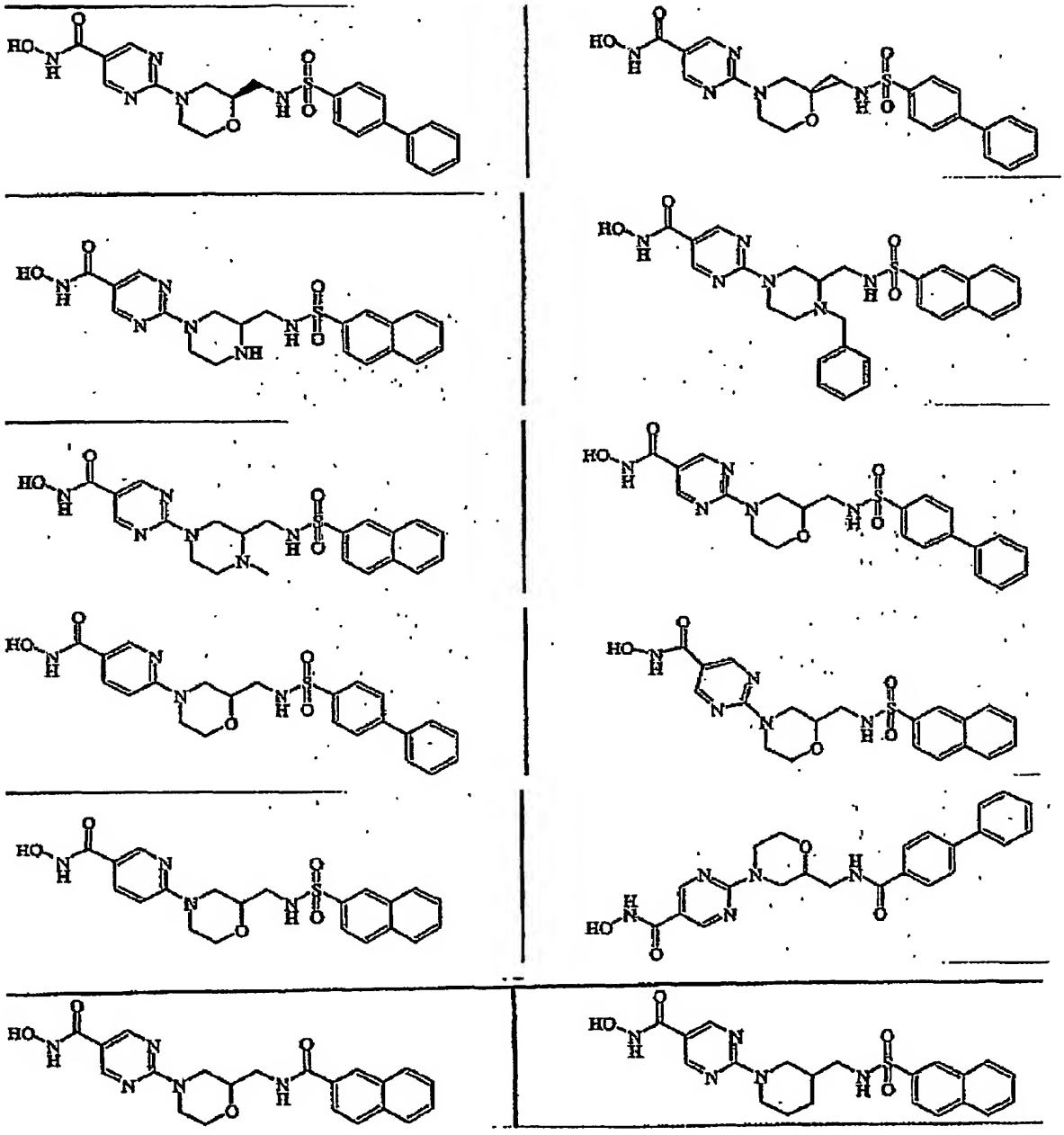

is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42) (a-43) or (a-44);

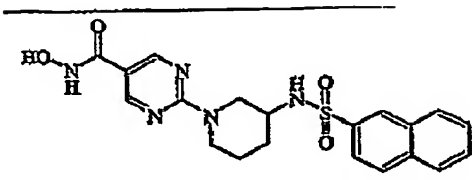
each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy;

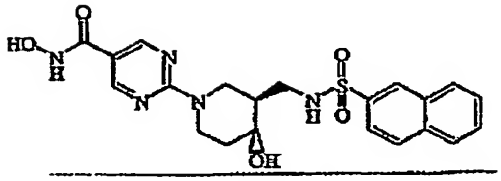
C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; arylC_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; imidazolyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkyloxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl,

C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, C_{1-4}alkylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylamino, di(hydroxyC_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino.

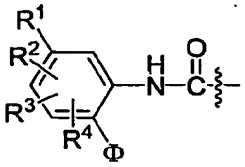
292. The compound of claim 287 that is selected from one of







wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

293. The compound of claim 287 wherein R^1, R^2, R^3, and R^4 are all H.

294. A compound according to claim 287 for use in inhibting histone deacetylase.

295. A compound according to calim 287 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

296. The compound of claim 295, wherein said treatment is effected by inhibiting histone deacetylase.

297. The compound of calim 295, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

298. The compound of claim 295, wherein said cell proliferative disease is cancer.

299. The compound of claim 398, wherein said cancer is a solid tumor cancer.

300. The compound of claim 298, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

301. A pharmaceutical composition comprising a compound according to claim 287 and a pharmaceutically acceptable carrier.

302. The pharmaceutical composition of claim 301 further comprising a nucleic acid level inhibitor of histone deacetylase.

303. The pharmaceutical composition of claim 302, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

304. The pharmaceutical composition of claim 303, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:l, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4,

SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:IO, SEQ ID No:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

305. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 287.

306. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 301.

307. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 302.

308. The method of claim 306, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

309. The method of claim 306, wherein said cell proliferative disease is cancer.

310. The method of claim 309, wherein said cancer is a solid tumor cancer.

311. The method of claim 310, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

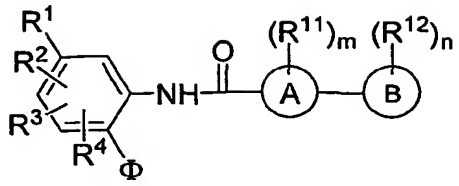
312. The method of claim 307, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

313. The method of claim 30, wherein said cell proliferative disease is cancer.

314. The method of claim 313, wherein said cancer is a solid tumor cancer.

315. The method of claim 314, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

316. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

R^1 is H or as defined in claim 1;

R^2, R^3, and R^4 are as defined in claim 1;

Ring A is a heterocyclyl, wherein if said heterocyclyl contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G;

R^{11} is a substituent on carbon and is selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl or a group (D-E-); wherein R^1, including group (D-E-), may be optionally substituted on carbon by one or more V; and wherein, if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from J;

V is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl

or a group (D'-E'-); wherein V, including group (D'-E'-), may be optionally substituted on carbon by one or more W;

W and Z are independently selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl or *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl;

G, J and K are independently selected from C_{1-8}alkyl, C_{2-8}alkenyl, C_{2-8}alkynyl, C_{1-8}alkanoyl, C_{1-8}alkylsulphonyl, C_{1-8}alkoxycarbonyl, carbamoyl, *N*-(C_{1-8}alkyl)carbamoyl, *N,N*-(C_{1-8}alkyl)carbamoyl, benzyloxycarbonyl, benzoyl and phenylsulphonyl, aryl, arylC_{1-6}alkyl or (heterocyclic group)C_{1-6}alkyl; wherein G, J and K may be optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from hydrogen or C_{1-6}alkyl;

Q is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, C_{1-6}alkoxycarbonylamino, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, arylC_{1-6}alkoxy, heterocyclic group, (heterocyclic group)C_{1-6}alkyl, (heterocyclic group)C_{1-6}alkoxy, or a group (D"-E"-); wherein Q, including group (D"-E"-), may be optionally substituted on carbon by one or more Z;

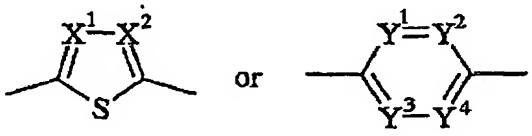
D, D' and D'' are independently selected from C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{3-8}cycloalkyl, C_{3-8}cycloalkylC_{1-6}alkyl, aryl, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl; wherein D, D' and D'' may be optionally substituted on carbon by one or more F'; and wherein if said heterocyclic group contains an –NH- moiety that nitrogen may be optionally substituted by a group selected from K;

E, E' and E'' are independently selected from -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -N(R^a)C(O)N(R^b)-, -N(R^a)C(O)O-, -OC(O)N(R^a)-, -C(O)N(R^a)-, -S(O)$_r$-, -SO_2N(R^a)-, -N(R^a)SO_2-; wherein R^a and R^b are independently selected from hydrogen or C_{1-6}alkyl optionally substituted by one or more F and r is 0-2;

F and F' are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkyl$S(O)_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl and *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl;

m is 0, 1, 2, 3 or 4; wherein the values of R^1 may be the same or different;

Ring B is a ring selected from



wherein,

X^1 and X^2 are selected from CH or N, and

Y^1, Y^2, Y^3 and Y^4 are selected from CH or N provided that at least one of Y^1, Y^2, Y^3 and Y^4 is N;

R^{12} is halo;

n is 0, 1, or 2, wherein the values of R^{12} are the same or different.

317. The compound of claim 316 wherein

- Ring A is a pyridyl, quinolyl, indolyl, pyrimidinyl, morpholinyl, piperidinyl, piperazinyl, pyridazinyl, pyrazinyl, thiazolyl, thienyl, thienopyrimidinyl, thienopyridinyl, purinyl, 1',2',3',6'-tetrahydropyridinyl, triazinyl, oxazolyl, pyrazolyl, or furanyl; wherein if Ring A contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G.
- Ring B is thienyl, thiadiazolyl, thiazolyl, pyrimidyl, pyrazinyl, pyridazinyl or pyridyl.
- or
- Ring B is thienyl or pyridyl wherein both the thienyl and the pyridyl are attached to Ring A in the 2-position of the thienyl or pyridyl ring and to the amide group of formula (I) in the 5-position of the thienyl or pyridyl ring.

- R^{11} is halo, amino, C_{1-6}alkyl, C_{1-6}alkoxy, C_{1-3}alkanoyloxy, *N*-(C_{1-3}alkyl)amino, *N,N*-(C_{1-3}alkyl)$_2$amino, C_{1-3}alkanoylamino, *N*-(C_{1-3}alkyl)carbamoyl, *N,N*-(C_{1-3}alkyl)$_2$carbamoyl.
- or
- R^{11} is a substituent on carbon and is selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl or a group (D-E-); wherein R^1, including group (D-E-), may be optionally substituted on carbon by one or more V; and wherein, if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from J;

V is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_n$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl or a group (D'-E'-); wherein V, including group (D'-E'-), may be optionally substituted on carbon by one or more W;

W and Z are independently selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl or *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl;

G, J and K are independently selected from C_{1-8}alkyl, C_{2-8}alkenyl, C_{2-8}alkynyl, C_{1-8}alkanoyl, C_{1-8}alkylsulphonyl, C_{1-8}alkoxycarbonyl, carbamoyl, *N*-(C_{1-8}alkyl)carbamoyl, *N,N*-(C_{1-8}alkyl)carbamoyl, benzyloxycarbonyl, benzoyl and phenylsulphonyl, aryl, arylC_{1-6}alkyl or (heterocyclic group)C_{1-6}alkyl; wherein G, J and K may be optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from hydrogen or C_{1-6}alkyl;

Q is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, C_{1-6}alkoxycarbonylamino, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, arylC_{1-6}alkoxy, heterocyclic group, (heterocyclic group)C_{1-6}alkyl, (heterocyclic group)C_{1-6}alkoxy, or a group (D"-E"-); wherein Q, including group (D"-E"-), may be optionally substituted on carbon by one or more Z;

D, D' and D'' are independently selected from C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{3-8}cycloalkyl, C_{3-8}cycloalkylC_{1-6}alkyl, aryl, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl; wherein D, D' and D'' may be optionally substituted on carbon by one or more F'; and wherein if said heterocyclic group contains an –NH- moiety that nitrogen may be optionally substituted by a group selected from K;

E, E' and E'' are independently selected from -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -N(R^a)C(O)N(R^b)-, -N(R^a)C(O)O-, -OC(O)N(R^a)-, -C(O)N(R^a)-, -S(O)$_r$-, -SO_2N(R^a)-, -N(R^a)SO_2-; wherein R^a and R^b are independently selected from hydrogen or C_{1-6}alkyl optionally substituted by one or more F and r is 0-2; and

F and F' are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl and *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl.

m is 0, 1, 2, 3 or 4; wherein the values of R^{11} are the same or different.

- R^{12} is halo.
- n is 0, 1, or 2; wherein the values of R^{12} are the same or different;

318. The compound of claim 317 wherein

- Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl, quinolin-8-yl, pyrimidin-6-yl, pyrimidin-5-yl, pyrimidin-4-yl, morpholin-4-yl, piperidin-4-yl, piperidin-3-yl, piperdin-2-yl, piperazin-4-yl, pyridazin-5-yl, pyrazin-6-yl, thiazol-2-yl, thien-2-yl, thieno[3,2d]pyrimidinyl, thieno[3,2b]pyrimidinyl, thieno[3,2b]pyridinyl, purin-6-yl, 1',2',3',6'-tetrahydropyridin-4-yl or triazin-6-yl; wherein if Ring A contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G.

Ring B is thienyl, thiazolyl, pyrimidyl, pyrazinyl, pyridazinyl or pyridyl.

- R^{11} is halo, amino, C_{1-6}alkyl or C_{1-6}alkoxy.

319. The compound of claim 317 wherein

Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl, morpholin-4-yl, piperidin-4-yl, piperidin-3-yl, piperdin-2-yl, piperazin-4-yl, thiazol-2-yl, thien-2-yl, furan-3-yl, pyrrolidin-1-yl, piperidin-1-yl, triazol-1-yl or 1',2',3',6'-tetrahydropyridin-4-yl wherein if Ring A contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G.

- Ring B is thienyl or pyridyl.
- R^{11} is halo, amino, methyl or methoxy.

320. The compound of claim 317 wherein

Ring A is a pyridyl, pyrimidyl, morpholinyl, piperidinyl, piperazinyl, pyridazinyl, thienyl, pyrazinyl, thiazolyl, 1,2,4-triazolyl or furanyl.

321. The compound of claim 317 wherein

Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl or 1,2,4-triazolyl.

322. The compound of claim 317 wherein

R^{11} substituent on carbon and is selected from cyano, hydroxy, C_{1-6}alkyl or a group (D-E-); whe wherein R^{11} including group E-), may be optionally substituted on carbon by one or more V;

V is cyano, hydroxy or a group (D'-E'-); wherein V, including group (D'-E'-), may be optionally substituted on carbon by one or more W;

W and Z are independently selected from cyano, C_{1-6}alkyl or C_{1-6}alkoxy;

G and K are independently selected from C_{1-8}alkyl, C_{2-8}alkenyl, C_{2-8}alkynyl, arylC_{1-6}alkyl or (heterocyclic group)C_{1-6}alkyl; wherein G and K may be optionally substituted on carbon by one or more Q;

Q is cyano, hydroxy, oxo, C_{1-6}alkyl, C_{2-6}alkenyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)carbamoyl, *N*,*N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkoxycarbonyl, C_{1-6}alkoxycarbonylamino, aryl, aryloxy or a group (D"-E"-); wherein Q, including group (D"-E"-), may be optionally substituted on carbon by one or more Z;

D, D' and D'' are independently selected from aryl, arylC_{1-6}alkyl or heterocyclic group; wherein D, D' and D'' may be optionally substituted on carbon by one or more F'; and wherein if said heterocyclic group contains an –NH- moiety that nitrogen may be optionally substituted by a group selected from K;

E, E' and E'' are independently selected from -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -C(O)N(R^a)-, -S(O)$_r$-; wherein R^a is selected from hydrogen or C_{1-6}alkyl optionally substituted by one or more F and r is 0-2; and

F and F' are independently selected from nitro, hydroxy, C_{1-6}alkyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, *N*-(C_{1-6}alkyl)amino, *N*,*N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino or C_{1-6}alkoxycarbonyl.

323. The compound of claim 317 wherein R^{12} is fluoro.

324. The compound of claim 317 wherein R^{12} is chloro.

325. The compound of claim 316 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 316 wherein:

Ring A is a pyridyl, indolyl, pyrimidyl, morpholinyl, piperidinyl, piperazinyl, pyridazinyl, thienyl, pyrazinyl, thiazolyl, oxazolyl, 1,2,4-triazolyl, isoxazolyl, isothiazolyl, pyrazolyl, orfuranyl;

Ring B is thienyl, thiadiazolyl, thiazolyl, pyiitnidyl, pyrazinyl, pyridazinyl or pyridyl;

R^{11} is halo, amino,C_{1-8}alkyl,C_{1-8}alko xy, C_{1-3}alkanoyloxy,N-(C_{1-3}alky l)$_2$amino, *N*,*N*-(C_{1-3}alky l)$_2$amino, C_{1-3}alkanoylamino, *N*-(C_{1-3}alkyl)carbamoyl, *N*,*N*-(CC_{1-3}alky)$_2$carbamoyl;

m is 0, 1, 2, wherein the values of R^{11} are the same or different.

n is 0, 1, 2, wherein the values of R^{12} are the same or different;

R^{12} is F or Cl.

326. The compound of claim 316 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 316 wherein:

Ring A is pyridin-4-yI, pyridin-3-yl, pyridin-2-yl or 1,2,4-triazolyl;

Ring B is thienyl or pyridyl;

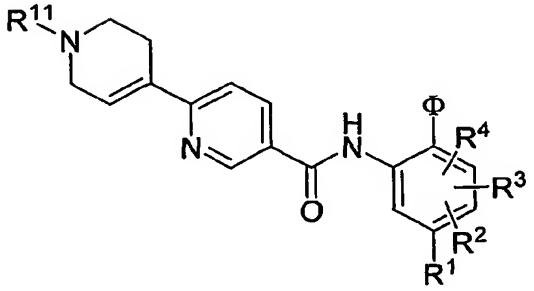
R^{11} is halo, amino, methyl or methoxy;

m is 0, 1, 2, wherein the values of R^{11} are the same or different,

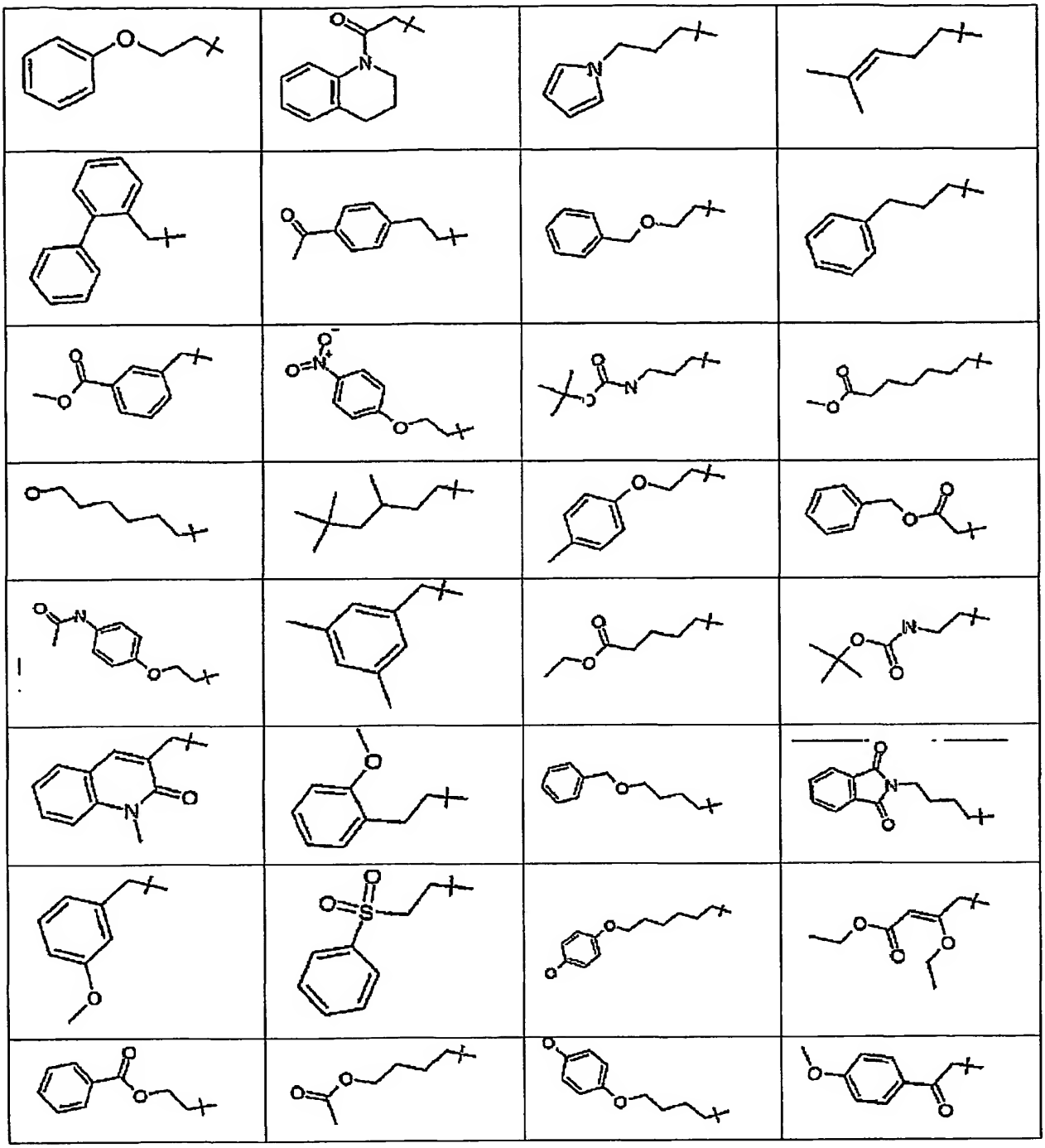
n is 0 or 1;

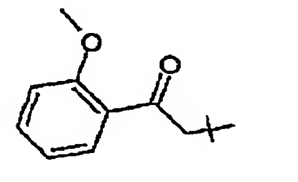
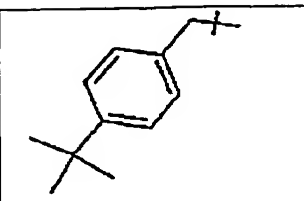
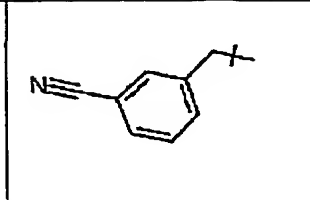
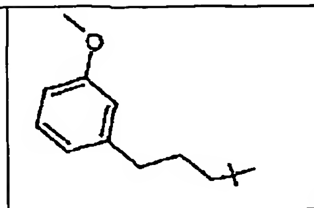
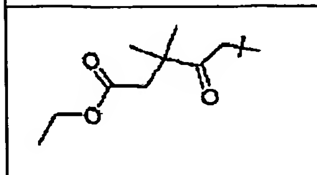
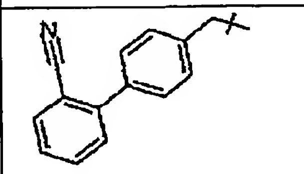
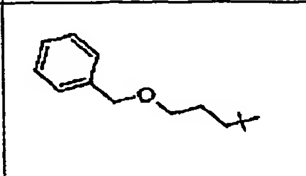
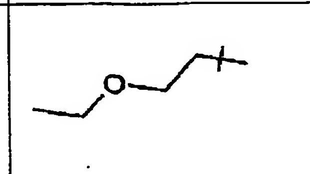
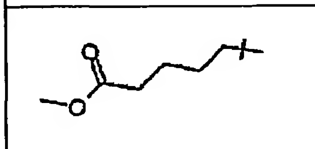
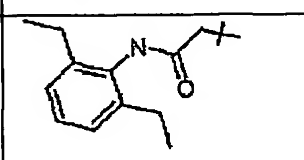
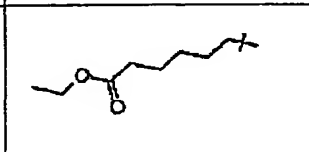
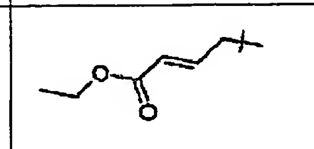
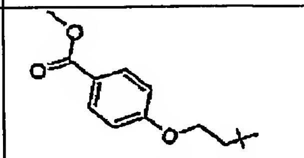
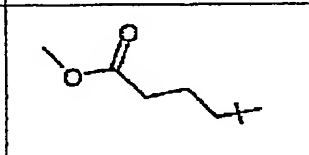
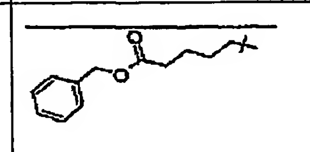
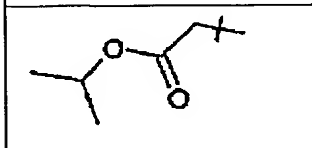
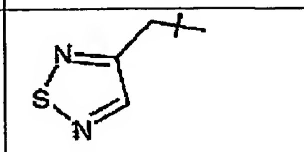
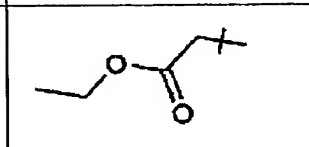
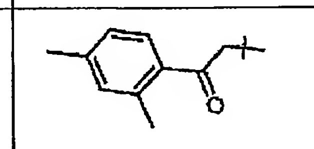
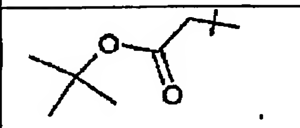
R^{12} is F.

327. The compound of claim 316 that is



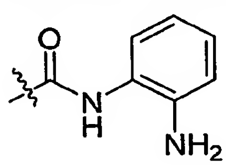
wherein R^{11} is selected from one of:



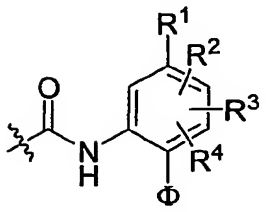
			
			
			
			
			
and			

328. The compound of claim 316 wherein R^2, R^3, and R^4 are all H.

329. The compound of claim 316 that is selected from one of the compounds of WO 03/024448 wherein the terminal moieties -C(O)-NH-Ay^1, -C(O)-NH-Ay^2, -C(O)-NH-Ar^a-NH_2, and



are replaced with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

330. A compound according to claim 316 for use in inhibting histone deacetylase.

331. A compound according to calim 316 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

332. The compound of claim 331, wherein said treatment is effected by inhibiting histone deacetylase.

334. The compound of calim 331, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

335. The compound of claim 331, wherein said cell proliferative disease is cancer.

336. The compound of claim 335, wherein said cancer is a solid tumor cancer.

337. The compound of claim 335, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

338. A pharmaceutical composition comprising a compound according to claim 316 and a pharmaceutically acceptable carrier.

339. The pharmaceutical composition of claim 338 further comprising a nucleic acid level inhibitor of histone deacetylase.

340. The pharmaceutical composition of claim 339, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

341. The pharmaceutical composition of claim 340, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No: I $_1$ SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

342. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 316.

343. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 338.

344. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 339.

345. The method of claim 343, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

346. The method of claim 343, wherein said cell proliferative disease is cancer.

347. The method of claim 346, wherein said cancer is a solid tumor cancer.

348. The method of claim 347, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

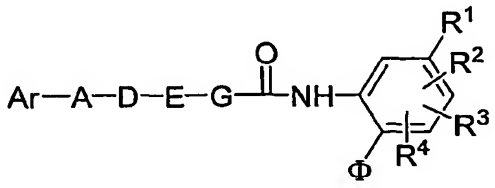
349. The method of claim 344, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

350. The method of claim 344, wherein said cell proliferative disease is cancer.

351. The method of claim 350, wherein said cancer is a solid tumor cancer.

352. The method of claim 351, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

353. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or -OH;

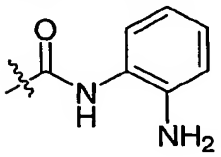
R^1 is H or as defined in claim 1;

R^2, R^3, and R^4 are as defined in claim 1; and

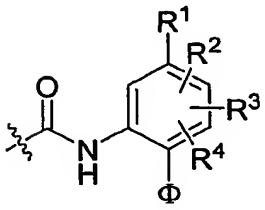
Ar, A, D, E, and G are as defined in JP 2003137866.

354. The compound of claim 353 wherein R^1, R^2, R^3, and R^4 are all H.

355. The compound of claim 353 that is selected from one of the compounds of JP 2003137866 wherein the terminal moiety:



NH_2 is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

356. A compound according to claim 353 for use in inhibting histone deacetylase.

357. A compound according to calim 353 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

358. The compound of claim 357, wherein said treatment is effected by inhibiting histone deacetylase.

359. The compound of calim 357, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

360. The compound of claim 357, wherein said cell proliferative disease is cancer.

361. The compound of claim 360, wherein said cancer is a solid tumor cancer.

362. The compound of claim 360, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

363. A pharmaceutical composition comprising a compound according to claim 353 and a pharmaceutically acceptable carrier.

364. The pharmaceutical composition of claim 363 further comprising a nucleic acid level inhibitor of histone deacetylase.

365. The pharmaceutical composition of claim 364, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

366. The pharmaceutical composition of claim 365, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No: I $_1$ SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:IO, SEQ ID No:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

367. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 353.

368. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 363.

369.A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 364.

370. The method of claim 368, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

371. The method of claim 368, wherein said cell proliferative disease is cancer.

372. The method of claim 371, wherein said cancer is a solid tumor cancer.

373. The method of claim 372, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

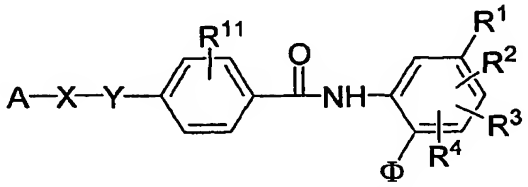
374. The method of claim 369, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

375. The method of claim 369, wherein said cell proliferative disease is cancer.

376. The method of claim 375, wherein said cancer is a solid tumor cancer.

377. The method of claim 376, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

378. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

O is $-NH_2$ or -OH;

R^1 is H or as defined in claim 1;

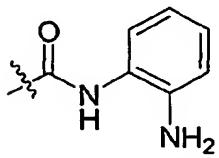
R^2, R^3, and R^4 are as defined in claim 1;

X, Y, and A are as defined in JP 11-269146 (1999); and

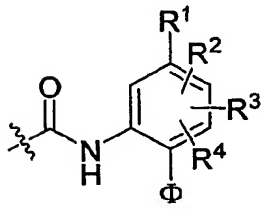
R^{11} is the same as R^1 of JP 11-269146 (1999).

379. The compound of claim 378 wherein R^1, R^2, R^3, and R^4 are all H.

380. The compound of claim 378 that is selected from one of the compounds 1-50 of Tables 2-4 of JP 11-269146 (1999) wherein the terminal moiety:



is replaced with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

381. A compound according to claim 378 for use in inhibting histone deacetylase.

382. A compound according to calim 378 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

383. The compound of claim 382, wherein said treatment is effected by inhibiting histone deacetylase.

384. The compound of calim 382, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

385. The compound of claim 382, wherein said cell proliferative disease is cancer.

386. The compound of claim 385, wherein said cancer is a solid tumor cancer.

387. The compound of claim 385, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

388. A pharmaceutical composition comprising a compound according to claim 378 and a pharmaceutically acceptable carrier.

389. The pharmaceutical composition of claim 388 further comprising a nucleic acid level inhibitor of histone deacetylase.

390. The pharmaceutical composition of claim 389, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

391. The pharmaceutical composition of claim 390, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:l, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

392. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 378.

393. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 388.

394. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 389.

395. The method of claim 393, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

396. The method of claim 393, wherein said cell proliferative disease is cancer.

397. The method of claim 396, wherein said cancer is a solid tumor cancer.

398. The method of claim 397, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

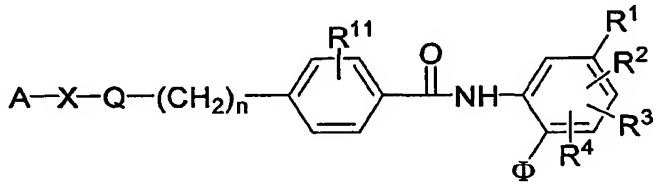
399. The method of claim 394, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

400. The method of claim 394, wherein said cell proliferative disease is cancer.

401. The method of claim 400, wherein said cancer is a solid tumor cancer.

402. The method of claim 401, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

403. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

O is $-NH_2$ or -OH;

R^1 is H or as defined in claim 1;

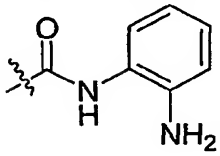
R^2, R^3, and R^4 are as defined in claim 1;

n, X, Q, and A are as defined in JP 11-302173 (1999); and

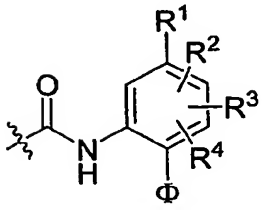
R^{11} is the same as R^1 of JP 11-302173 (1999).

404. The compound of claim 403 wherein R^1, R^2, R^3, and R^4 are all H.

405. The compound of claim 403 that is selected from one of the compounds 1-67 of JP 11-302173 (1999) wherein the terminal moiety:



NH_2 is replaced with the moiety



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

406. A compound according to claim 403 for use in inhibting histone deacetylase.

407. A compound according to calim 403 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

408. The compound of claim 407, wherein said treatment is effected by inhibiting histone deacetylase.

409. The compound of calim 407, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

410. The compound of claim 407, wherein said cell proliferative disease is cancer.

411. The compound of claim 410, wherein said cancer is a solid tumor cancer.

412. The compound of claim 410, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

413. A pharmaceutical composition comprising a compound according to claim 403 and a pharmaceutically acceptable carrier.

414. The pharmaceutical composition of claim 413 further comprising a nucleic acid level inhibitor of histone deacetylase.

415. The pharmaceutical composition of claim 414, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

416. The pharmaceutical composition of claim 415, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:l, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

417. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 403.

418. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 413.

419. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 414.

420. The method of claim 418, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

421. The method of claim 418, wherein said cell proliferative disease is cancer.

422. The method of claim 421, wherein said cancer is a solid tumor cancer.

423. The method of claim 422, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

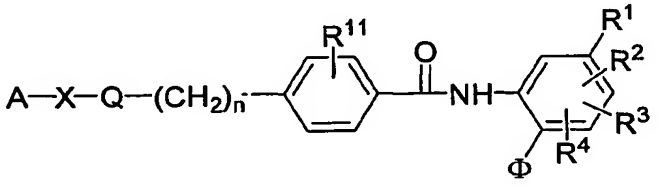
424. The method of claim 419, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

425. The method of claim 419, wherein said cell proliferative disease is cancer.

426. The method of claim 425, wherein said cancer is a solid tumor cancer.

427. The method of claim 426, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

428. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or -OH;

R^1 is H or as defined in claim 1;

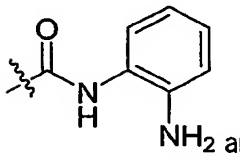
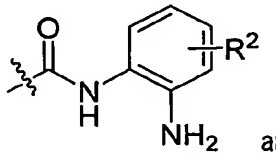
R^2, R^3, and R^4 are as defined in claim 1;

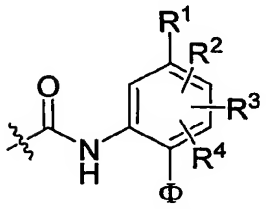
n, Q, and A are as defined in JP 2001 131 130; and

R^{11} is the same as R^1 of JP 2001131130.

429. The compound of claim 428 wherein R^1, R^2, R^3, and R^4 are all H.

430. The compound of claim 428 that is selected from one of the compounds of JP 2001131130 wherein the terminal moieties


and

are replaced with the moiety



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

431. A compound according to claim 428 for use in inhibting histone deacetylase.

432. A compound according to calim 428 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

433. The compound of claim 432, wherein said treatment is effected by inhibiting histone deacetylase.

434. The compound of calim 432, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

435. The compound of claim 432, wherein said cell proliferative disease is cancer.

436. The compound of claim 435, wherein said cancer is a solid tumor cancer.

437. The compound of claim 435, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

438. A pharmaceutical composition comprising a compound according to claim 428 and a pharmaceutically acceptable carrier.

439. The pharmaceutical composition of claim 438 further comprising a nucleic acid level inhibitor of histone deacetylase.

440. The pharmaceutical composition of claim 439, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

441. The pharmaceutical composition of claim 440, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:I, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:II, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

442. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 428.

443. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 438.

444. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 439.

445. The method of claim 443, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

446. The method of claim 443, wherein said cell proliferative disease is cancer.

447. The method of claim 446, wherein said cancer is a solid tumor cancer.

448. The method of claim 447, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

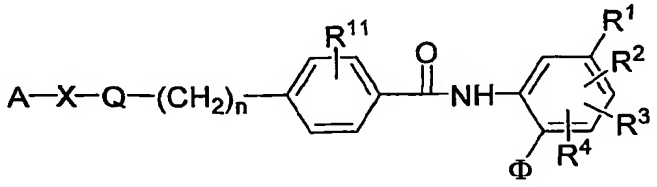
449. The method of claim 444, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

450. The method of claim 444, wherein said cell proliferative disease is cancer.

451. The method of claim 450, wherein said cancer is a solid tumor cancer.

452. The method of claim 451, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

453. A compound of formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or -OH;

R^1 is H or as defined in claim 1;

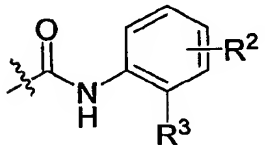
R^2, R^3, and R^4 are as defined in claim 1;

n, X, Q, and A are as defined in JP 10152462, JP 2002332267, and JP 11-302173; and

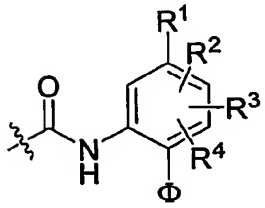
R^{11} is the same as R^1 of JP 10152462, JP 2002332267, and JP 11-302173.

454. The compound of claim 453 wherein R^1, R^2, R^3, and R^4 are all H.

455. The compound of claim 453 that is selected from one of the compounds of JP 10152462, JP 2002332267, and JP 11-302173 wherein the terminal moiety



is replaced with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

456. A compound according to claim 453 for use in inhibting histone deacetylase.

457. A compound according to calim 453 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

458. The compound of claim 457 wherein said treatment is effected by inhibiting histone deacetylase.

459. The compound of calim 457, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

460. The compound of claim 457, wherein said cell proliferative disease is cancer.

461. The compound of claim 460, wherein said cancer is a solid tumor cancer.

462. The compound of claim 460, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

463. A pharmaceutical composition comprising a compound according to claim 453 and a pharmaceutically acceptable carrier.

464. The pharmaceutical composition of claim 463 further comprising a nucleic acid level inhibitor of histone deacetylase.

465. The pharmaceutical composition of claim 464, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

466. The pharmaceutical composition of claim 465, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:l, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:ll, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

467. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 453.

468. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 463.

469. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 464.

470. The method of claim 468, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

471. The method of claim 468, wherein said cell proliferative disease is cancer.

472. The method of claim 471, wherein said cancer is a solid tumor cancer.

473. The method of claim 472, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

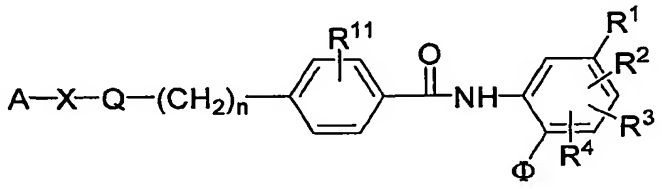
474. The method of claim 469, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

475. The method of claim 469, wherein said cell proliferative disease is cancer.

476. The method of claim 475, wherein said cancer is a solid tumor cancer.

477. The method of claim 476, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

478. A compounds of the formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or -OH;

R^1 is H or as defined in claim 1;

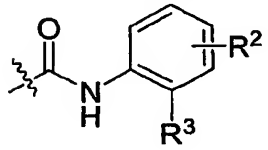
R^2, R^3, and R^4 are as defined in claim 1;

n, X, Q, and A are as defined in US 6,174,905; and

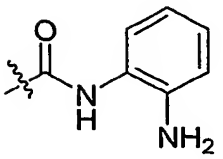
R^{11} is the same as R^1 of US 6,174,905.

479. The compound of claim 478 wherein R^1, R^2, R^3, and R^4 are all H.

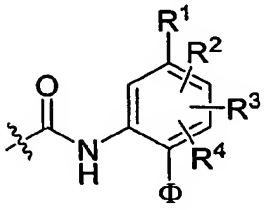
480. The compound of claim 478 that is selected from one of the compounds of US 6,174,905 wherein the terminal moiety:



of the compounds of Table 1 of US 6,174,905 and the terminal moiety:



of the compounds of Tables 2-4 of US 6,174,905 are replaced with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph claim 1.

481. A compound according to claim 478 for use in inhibting histone deacetylase.

482. A compound according to calim 478 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

483. The compound of claim 482, wherein said treatment is effected by inhibiting histone deacetylase.

484. The compound of calim 482, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

485. The compound of claim 482, wherein said cell proliferative disease is cancer.

486. The compound of claim 485, wherein said cancer is a solid tumor cancer.

487. The compound of claim 485, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

488. A pharmaceutical composition comprising a compound according to claim 478 and a pharmaceutically acceptable carrier.

489. The pharmaceutical composition of claim 488 further comprising a nucleic acid level inhibitor of histone deacetylase.

490. The pharmaceutical composition of claim 489, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

491. The pharmaceutical composition of claim 490, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No: I $_1$ SEQ ID No:2, SEQ ID No:3, SEQ ID No:4,

SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:II, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

492. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 478.

493. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 488.

494. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 489.

495. The method of claim 493, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

496. The method of claim 493, wherein said cell proliferative disease is cancer.

497. The method of claim 496, wherein said cancer is a solid tumor cancer.

498. The method of claim 497, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

499. The method of claim 494, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

500. The method of claim 494, wherein said cell proliferative disease is cancer.

501. The method of claim 500, wherein said cancer is a solid tumor cancer.

502. The method of claim 501, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

503. A compound selected from the compounds of Table 1 and Table I a and pharmaceutically acceptable salts thereof.